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(54) Title: ANTIGENIC PEPTIDES, SUCH AS FOR G PROTEIN-COUPLED RECEPTORS (GPCRS), ANTIBODIES THERETO, AND SYSTEMS FOR IDENTIFYING SUCH ANTIGENIC PEPTIDES

(57) Abstract: The present invention provides antigenic peptides for GPCRs and antibodies relating thereto, and related systems, methods, compositions, and the like, such as diagnostics and medicaments. Where antibodies against a given GPCR are not known, the present invention provides such antibodies, and preferred antigenic sequences for producing such antibodies. Where antibodies against a given GPCR are known, the present invention provides preferred antigenic peptides for producing antibodies that exhibit improved specificity, affinity or capacity to perform antibody-related actions relative to the known antibodies.

# ANTIGENIC PEPTIDES, SUCH AS FOR G PROTEIN-COUPLED RECEPTORS (GPCRS), ANTIBODIES THERETO, AND SYSTEMS FOR IDENTIFYING SUCH ANTIGENIC PEPTIDES

## 5 CROSS-REFERENCE TO RELATED APPLICATIONS

[1] The present application claims priority from United States provisional patent application No. 60/257,144, filed December 19, 2000 and presently pending.

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10 CROSS-REFERENCE TO RELATED APPLICATIONS

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ANTIGENIC PEPTIDES GENERALLY:

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SCREENING FOR/WITH ANTIGENIC PEPTIDES:

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BEAD AGGLUTINATION ASSAYS:

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SANDWICH ASSAY:

SEQUENTIAL AND SIMULTANEOUS ASSAYS:

IMMUNOSTICK (DIP-STICK) ASSAYS:

40 IMMUNOCHROMATOGRAPHIC ASSAYS:

**IMMUNOFILTRATION ASSAYS:** 

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**ANTIBODIES** 2. ANTIBODIES GENERATED AGAINST A PARTICULAR ANTIGENIC PEPTIDE AND ITS CORRESPONDING GPCR: ANTIBODIES GENERALLY: 5 ANTI-IDIOTYPIC ANTIBODIES: a. Antibody Preparation Polyclonal Antibodies (i) ANTIBODY PREP - POLYCLONAL: ANTIBODY PREP - ADJUVANTS (ALL ABS): Monoclonal Antibodies 10 (ii) ANTIBODY PREP - MONOCLONAL: **MOABS - COMBINATORIAL: HUMANIZED MOAB:** ANTIBODY SUBSTITUTIONS - NON-IMMUNOGLOBULIN POLYPEPTIDES 15 (ALL ABS): CHIMERICS: ANTIBODY LABELING (ALL ABS): (iii) Humanized And Human Antibodies **HUMANIZED AB GENERALLY:** (iv) Antibody Fragments 20 ANTIBODY FRAGMENTS: (v) Bispecific Antibodies **BISPECIFIC ANTIBODIES GENERALLY:** ANTIBODIES - HYBRID IMMUNOGLOBULIN HEAVY CHAIN: 25 ANTIBODIES - CROSS-LINKED OR "HETEROCONJUGATE": ANTIBODIES - DIABODIES: **ANTIBODIES - OTHER: Antibody Purification** b. ANTIBODY PURIFICATION GENERALLY: 30 **BEFORE LPHIC:** LPHIC: POST LPHIC: c. Some Uses For Antibodies Described Herein Generally (i) 35 GENERALLY: ASSAYS: **DIAGNOSTIC USES:** (ii) Assays ASSAYS: 40 **COMPETITIVE BINDING ASSAYS:** (iii) **Affinity Purification AFFINITY PURIFICATION:** (iv) **Therapeutics** THERAPEUTIC USES: 45 THERAPEUTIC FORMULATIONS: THERAPEUTIC FORMULATIONS -STERILE: THERAPEUTIC ADMINISTRATIONS:

THERAPEUTIC ADMINISTRATIONS – SUSTAINED RELEASE-POLYMERS: THERAPEUTIC ADMINISTRATIONS – SUSTAINED RELEASE-LIPOSOMES: THERAPEUTICALLY EFFECTIVE AMOUNT:

5. DRUG DESIGN BASED ON THE ANTIGENS HEREIN OR ANTIBODIES THERETO

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10 ABSTRACT

[3]

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## **BACKGROUND**

- [4] G protein-coupled receptors (GPCRs) are a large group of proteins that transmit signals across cell membranes. In general terms, GPCRs function somewhat like doorbells.

  15 When a molecule outside the cell contacts the GPCR (pushes the doorbell), the GPCR changes its shape and activates "G proteins" inside the cell (similar to the doorbell causing the bell to ring inside the house, which in turn causes people inside to answer the door). GPCRs are like high-security doorbells because each GPCR responds to only one specific kind of signaling molecule (called its "endogenous ligand"), kind of like a high-tech door lock that responds to only one fingerprint. Part of the GPCR is located outside the cell (the "extracellular domain"), part spans the cell's membrane (the "transmembrane domain"), and part is located inside the cell (the "intracellular domain"). Thus, GPCRs are embedded in the outer membrane of a cell and recognize and bind certain signaling molecules that are present in the spaces surrounding the cell. GPCRs are used by cells to keep an eye on the cells' own activity and on the environment. In organisms that have many cells, the cells use GPCRs to talk to each other.
  - [5] GPCRs are important to the pharmaceutical industry and other industries. For example, many drugs, including some antibody-based drugs, act by binding to specific GPCRs and initiating or inhibiting their intracellular actions, and diagnostics and therapeutics based on GPCRs or on antibodies for GPCRs are becoming increasingly important.
  - [6] General concepts about GPCRs are discussed in more scientific terms in the following paragraphs.
  - [7] The GPCR superfamily has at least 250 members, Strader et al., FASEB J., 9:745-754 (1995); Strader et al., Annu. Rev. Biochem., 63:101-32 (1994). GPCRs play important

roles in diverse cellular processes including cell proliferation and differentiation, leukocyte migration in response to inflammation, gene transcription, vision (the rhodopsins), smell (the olfactory receptors), neurotransmission (muscarinic acetylcholine, dopamine, and adrenergic receptors), and hormonal response (luteinizing hormone and thyroid-stimulating hormone receptors). Strader et al., *supra*; U.S. Patent nos. 5,994,097 and 6,063,596. Many important drugs produce their therapeutic actions through their interaction with GPCRs.

- Nucleotide and amino acid sequences for many GPCRs have been reported and can be found in public databases such as GenBank and GenPept. Generally speaking, different GPCRs show both structural and sequence similarities. The most conserved domains of 10 GPCRs are the transmembrane domains and the first two cytoplasmic loops. GPCRs range in size from under 400 to over 1000 amino acids. Coughlin, S. R., Curr. Opin. Cell Biol. 6:191-. 197 (1994). They contain seven hydrophobic transmembrane regions that span the cellular membrane and form a bundle of antiparallel alpha helices. McKee K.K., supra. The bundle of helices forming the transmembrane regions provide many structural and functional features of the receptor. In most cases, the bundle of helices form a pocket that binds a signaling molecule. However, when the binding site accommodates larger molecules, the extracellular N-terminal segment or one or more of the three extracellular loops participate in binding and in subsequent induction of conformational change in the intracellular portions of the receptor. These helices are joined at their ends by three intracellular and three extracellular loops. GPCRs also contain cysteine disulfide bridges between the second and third extracellular loops, an extracellular N-terminus, and a cytoplasmic or intracellular C-The N-terminus is often glycosylated, while the C-terminus is generally phosphorylated. A conserved, acidic-Arg-aromatic triplet present in the second cytoplasmic loop may interact with G Proteins. Most GPCRs contain a characteristic consensus pattern. Watson, S. and S. Arkinstall, The G protein Linked Receptor Facts Book, Academic Press, San Diego, CA (1994); Bolander, F. F. Molecular Endocrinology, Academic Press, San Diego, CA (1994).
  - [9] Although GPCRs have many features in common, each GPCR has its own unique characteristics as well. GPCRs have varying nucleotide and amino acid sequences, and varying antigenicity. GPCRs bind a diverse array of specific, extracellular signaling molecules (which can also be referred to as "ligands") including peptides, cytokines, hormones, neurotransmitters, growth factors, and specialized stimuli such as photons,

flavorants, and odorants. Identified ligands include, for example, purines, nucleotides (e.g., adenosine, cAMP, NTPs), biogenic amines (e.g., epinephrine, norepinepherine, dopamine, histamine, noradrenaline, serotonin), acetylcholine, peptides (e.g., angiotensin, calcitonin, chemokines, corticotropin releasing factor, galanin, growth hormone releasing hormone, gastric inhibitory peptide, glucagon, neuropeptide Y, neurotensin, opioids, thrombin, secretin, somatostatin, thyrotropin releasing hormone, vasopressin, vasoactive intestinal peptide), lipids and lipid-based compounds (e.g., cannabinoids, platelet activating factor), excitatory and inhibitory amino acids (e.g., glutamate, GABA), ions (e.g., calcium), and toxins.

- [10] In general, a GPCR binds only one type of signaling molecule and GPCRs are classified according to subfamilies based upon their selectivity and specificity for a particular ligand. When the ligand for a receptor is not known, the receptor is known as an orphan receptor. The extracellular domain interacts with or binds to certain signaling molecules or ligands located outside of the cell. The binding of a ligand to the extracellular domain alters the conformation of the receptor's intracellular domain causing the activation of a G protein. The G protein then activates or inactivates a separate plasma-membrane-bound enzyme or ion channel. This chain of events alters the concentration of one or more intracellular messengers (second messengers) such as cyclic AMP (cAMP), inositol triphosphate, diacylglycerol, or Ca<sup>2+</sup>. These, in turn, alter the activity of other intracellular proteins such as cAMP-dependent protein kinase and Ca<sup>2+</sup>/calmodulin-dependent protein kinases, leading to the transduction and amplification of the original extracellular signal. Baldwin, J.M., Curr. Opin. Cell Biol. 6:180-190 (1994). The G protein is deactivated by hydrolysis of GTP by GTPase. U.S. Patent Nos. 5,994,097 and 6,063,596.
  - [11] GPCR mutations, both of the loss-of-function and of the activating variety, have been associated with numerous human diseases, Coughlin, *supra*. For example, retinitis pigmentosa may arise from either loss-of-function or activating mutations in the rhodopsin gene. Somatic activating mutations in the thyrotropin receptor cause hyperfunctioning thyroid adenomas, Parma, J. et al., Nature 365:649-651 (1993). Parma et al. indicate that it may be possible that certain G protein-coupled receptors susceptible to constitutive activation may behave as proto-oncogenes. Interestingly, GPCRs have functional homologues in human cytomegalovirus and herpesvirus, so GPCRs may have been acquired during evolution for viral pathogenesis, Strader et al., FASEB J., 9:745-754 (1995); Arvanitakis et al., Nature, 385:347-350 (1997); Murphy, Annu. Rev. Immunol. 12:593-633 (1994). The

importance of the GPCR superfamily is further highlighted by the recent discoveries that some of its family members, the chemokine receptors CXCR4/Fusin and CCR5, are coreceptors for T cell-tropic and macrophage-tropic HIV virus strains, respectively, Alkhatib et al., Science, 272:1955 (1996); Choe et al., Cell, 85:1135 (1996); Deng et al., Nature, 381:661 (1996); Doranz et al., Cell, 85:1149 (1996); Dragic et al., Nature, 381:667 (1996); Feng et al., Science, 272:872 (1996). It is conceivable that blocking these receptors may prevent infection by the human immunodeficiency (HIV) virus. Other GPCR-related items include regulating cellular metabolism and diagnosing, treating and preventing particular diseases associated with particular GPCRs.

- [12] One important way to evaluate GPCRs and antibodies for GPCRs as novel drug targets and for other purposes such as diagnostics is through the creation and use of databases. Such databases can provide large amounts of information about genes, proteins, and other biological matter. An excellent example of such a database is the GPCR database created and maintained by LifeSpan BioSciences, Inc., Seattle, Washington, USA, which database is available by subscription to researchers and others needing such information. The information in the databases can, for example, be searched, compared, and analyzed. The compilation of such databases, as well as the searching, comparing, etc., of the databases, can be referred to as the field of "bioinformatics." Investigations largely related to genes, such as the information found from the sequencing of the human genome, can be called "genomics" while similar activities on proteins can be called "proteomics."
- [13] There has gone unmet a need for improved systems, compositions, methods, and the like relating to improved antigenicity of peptides from GPCRs and antibodies relating thereto. The present invention provides these and other advantages.

## **SUMMARY**

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25 [14] The present invention provides antigenic peptides for GPCRs and antibodies relating thereto, and related systems, methods, compositions, and the like, such as diagnostics and medicaments. Where antibodies against a given GPCR are not known, the present invention provides such antibodies, and preferred antigenic sequences for producing such antibodies. Where antibodies against a given GPCR are known, the present invention provides preferred antigenic peptides for producing antibodies that exhibit improved specificity, affinity or capacity to perform antibody-related actions relative to the known

antibodies. The present invention also provides improved methods of selecting antigenic peptides from any desired protein or polypeptide, as well as antigenic peptides so produced and antibodies against such antigenic peptides.

The antigenic peptides and antibodies herein can be used, for example, to detect the [15] presence or absence of corresponding GPCRs. They can be used to diagnose a variety of diseases and disorders in which GPCRs are involved, such as, e.g., immune-related diseases, cell growth-related diseases, cell regeneration-related diseases, immunological-related cell proliferative diseases, and autoimmune diseases. Examples of specific diseases include AIDS, allergies, Alzheimer's disease, amyotrophic lateral sclerosis, atherosclerosis, bacterial, fungal, protozoan and viral infections, benign prostatic hypertrophy, bone diseases (e.g., osteoarthritis, osteoporosis), carcinoma (e.g., basal cell carcinoma, breast carcinoma, embryonal carcinoma, ovarian carcinoma, renal cell carcinoma, lung adenocarcinoma, lung small cell carcinoma, pancreatic carcinoma, prostate carcinoma, transitional carcinoma of the bladder, squamous cell carcinoma, thyroid carcinoma), cardiomyopathy, chronic and acute inflammation, circadian rhythm disorders, COPD, Crohn's disease, diabetes, Duchenne muscular dystrophy, embryonal carcinoma, endotoxic shock, environmental stress (e.g., by heat, UV or chemicals), gastrointestinal disorders, glioblastoma multiform, graft vs. host disease, Hodgkin's disease, inflammatory bowel disease, ischemia, stroke, lymphoma, macular degeneration, malignant cytokine production, malignant fibrous histiocytoma, melanoma, meningioma, mesothelioma, multiple sclerosis, nasal congestion, pain, Parkinson's disease, prostate carcinoma, psoriasis, rhabdomyosarcoma, psychotic or neurological disorders (e.g., anxiety, depression, schizophrenia, dementia, mental retardation, memory loss, epilepsy, locomotor problems, respiratory disorders, asthma, eating/body weight disorders including obesity, bulimia, diabetes, anorexia, nausea, hypertension, hypotension), renal disorders, reperfusion injury, rheumatoid arthritis, sarcoma (e.g., chondrosarcoma, Ewing's sarcoma, osteosarcoma), septicemia, seminoma. sexual/reproductive disorders, tonsil, transitional carcinoma of the bladder, transplant rejection, trauma, tuberculosis, ulcers, ulcerative colitis, urinary retention, vascular and cardiovascular disorders, or any other disease or disorder in which G protein-coupled receptors are involved, as well as learning and/or memory disorders, diabetes, pain perception disorders, anorexia, obesity, hormonal release problems, or any other disease or disorder in which a specific GPCR is involved.

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[16] The association of particular GPCRs with particular diseases, disorders or conditions will be apparent to a person of ordinary skill in the art in view of the present application, and thus the association with the antibodies of the present invention to the corresponding diseases, disorders or conditions.

- [17] Thus, in one aspect the present invention provides isolated antigenic peptides according to any one of SEQ ID NOS. 692-2292. The isolated antigenic peptides also comprise an amino acid sequences that are at least about 90% or 95% identical to such sequences, or be an analog of such sequences, or comprise a short antigenic amino acid sequence that is identical to at least 5 consecutive amino acids set forth in any one of such sequences or contain no more than one conservative amino acid substitution over at least 7 consecutive amino acids set forth in any of such sequences. The present invention also provides antibodies, particularly isolated antibody having high specificity and high affinity or avidity for a particular GPCR or other target polypeptide or protein, generated using the antigenic peptides discussed herein.
- 15 [18] The present invention also provides isolated nucleic acid molecules encoding an antigenic peptide or antibody as described herein. The molecule can encode a naturally occurring human antigenic peptide. In some embodiments, the present invention provides processes for producing an isolated polynucleotide can comprise hybridizing a nucleotide encoding an antigenic peptide as discussed herein to DNA such as genomic DNA under stringent or highly stringent conditions and isolating the polynucleotide detected with the nucleotide.
  - [19] The present invention also provides kits and assays, such as kits for the detection of antibodies against a particular GPCR or other target polypeptide in a sample comprising: a) an isolated antigenic peptide as discussed herein and derived from the particular GPCR, and b) at least one of a reagent or a device for detecting the antibodies, or comprising: a) an isolated antibody as described herein, and b) at least one of a reagent or a device for detecting the antibody. The assays include detection of a particular GPCR in a sample, comprising: a) providing an isolated antigenic peptide, b) contacting the isolated antigenic peptide corresponding to the particular GPCR with the sample under conditions suitable and for a time sufficient for the antigenic peptide to bind to one or more antibodies specific for the target protein present in the sample, to provide an antibody-bound target protein, and c) detecting the antibody-bound antigenic peptide, and therefrom determining whether the

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sample contains the particular GPCR. The assays can further comprise the step of binding the isolated antigenic peptide or the antibody to a solid substrate, and the sample can be an unpurified sample, for example from a human being.

- [20] The assay can be selected from the group consisting of a countercurrent immuno-electrophoresis (CIEP) assay, a radioimmunoassay, a radioimmunoprecipitation, an enzymelinked immuno-sorbent assay (ELISA), a dot blot assay, an inhibition or competition assay, a sandwich assay, an immunostick (dip-stick) assays, a simultaneous assay, an immunochromatographic assay, an immunofiltration assay, a latex bead agglutination assay, an immunofluorescent assay, a biosensor assay, and a low-light detection assay.
- In other aspects, the present invention provides methods of identifying an amino acid sequence for an antigenic peptide from a candidate polypeptide sequence such as a polypeptide or protein wherein the antigenic peptide has a length of about 5 to about 100 amino acids, typically 6 amino acids to about 50 amino acids, and preferably 7 amino acids to about 20 amino acids. The methods comprise: a) searching the candidate polypeptide sequence using a comparison window of the length, and b) selecting against amino acid sequences of the length and having at least 1 to 3 or 4 characteristics selected from the group consisting of 1) at least two consecutive prolines, 2) at least two consecutive serines, 3) at least two consecutive aspartic acids, 6) at least two consecutive glutamic acids, 7) methionine, 8) tryptophan, and 9) at least five consecutive amino acids comprising no charged amino acids. Preferably, the method comprises selecting against at least 5 to all of the characteristics.
  - [22] The methods can comprise, independently or in addition, selecting against amino acid sequences of the desired length having at least one of the following characteristics 1) sequences having at least 5 consecutive amino acids that are identical to an alternative amino acid sequence from an alternative polypeptide that can be different from the candidate polypeptide, 2) posttranslational modification sites, and 3) highly hydrophobic sequences. The posttranslational modification sites can be phosphorylation or glycosylation sites. The methods can also comprise performing a BLAST-type or a FAST-type analyses for the candidate polypeptide sequence.

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30 [23] These and other aspects, features, and embodiments are set forth within this application, including the following Detailed Description and attached drawings. The present invention comprises a variety of aspects, features, and embodiments; such multiple aspects,

features, and embodiments can be combined and permuted in any desired manner. In addition, various references are set forth herein, including in the Cross-Reference To Related Applications, that discuss certain compositions, apparatus, methods, or other information; all such references are incorporated herein by reference in their entirety and for all their teachings and disclosures, regardless of where the references may appear in this application.

## BRIEF DESCRIPTION OF THE DRAWING

- [24] Figure 1 depicts representative examples of the nucleotide and amino acid sequences of the GPCRs for which antigenic peptides are set forth herein, SEQ ID NOS. 1 691.
- 10 [25] Figure 2 depicts amino acid sequences for the antigenic peptides for the GPCRs herein, SEQ ID NOS. 692-2292.
  - [26] Figure 3 depicts a listing of GPCRS for which commercially available antibodies are putatively available.

## **DETAILED DESCRIPTION**

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## A. INTRODUCTION AND OVERVIEW

- [27] Diseases such as immune-related diseases, cell growth-related diseases, cell regeneration-related diseases, immunological-related cell proliferative diseases, and autoimmune diseases are serious health problems in the modern world. Any improvement in the diagnosis, treatment or other remediation of such diseases is a significant advance for millions of people. The present invention provides methods of identifying and selecting desirable antigenic peptides for GPCRs and other desired target or candidate proteins and polypeptides. The present invention also provides the antigenic peptides themselves, as well as antibodies against the antigenic peptides (and against proteins or polypeptides containing such antigenic peptides), and related diagnostics, antibody-based therapeutics directed to certain diseases and conditions, and other helpful compositions, systems, kits, assays and the like. The compositions, methods, and the like can be useful, for example, as agonists, antagonists, probes, and otherwise as may be desired.
- [28] The antigenic peptides have been carefully selected using specific selection criteria and methodologies set forth herein to take advantage of particularly advantageous regions of the GPCRs from which they have been derived to provide unusually specific and

immunogenic antigens. These antigenic peptides are particularly useful for producing highly specific antibodies against the antigenic peptides, which, in turn, also means antibodies that are highly specific for the corresponding GPCRs containing the antigenic peptides. Accordingly, the antigenic peptides of the present invention, and the antibodies produced therefrom, are particularly useful for high specifity, low noise diagnostics and, in the case of the antibodies, for certain antibody-based therapeutics, as well as methods, kits, systems, and the like incorporating or based on such antigenic peptides or antibodies.

- [29] The antibodies produced using the antigenic peptides of the present invention, for example, have a specificity for the corresponding GPCR such that the antibodies can selectively detect the corresponding GPCR in a sample containing non-desired or contaminating proteins or polypeptides, such as a tissue or blood sample. Preferably, the antibodies have a high specificity such that no significant amounts of such proteins or polypeptides are detected, and further preferably have a specificity such that only insubstantial to essentially zero amounts of non-desirable proteins are detected.
- 15 [30] The antibodies produced using the antigenic peptides of the present invention, for example, typically have an affinity or avidity constant (Ka) of at least about 10<sup>7</sup> liters/mole, typically a high affinity or avidity at least about 10<sup>9</sup> liters/mole, preferably at least about 10<sup>10</sup> liters/mole, and further preferably at least about 10<sup>11</sup> liters/mole.

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[31] Figure 1 sets forth the DNA and protein sequences for the GPCRs from which the antigenic peptides of the present invention were derived SEQ ID NOS. 1-691. Figure 2 sets forth the amino acid sequences of exemplary antigenic peptides, SEQ ID NOS. 692-2292. The sequences in Figures 1 and 2 are listed according to SEQ ID NO and LSID, which is an identification number assigned to the given sequence in the LifeSpan Biosciences databases. The sequences in Figure 2 also include an identifier LPID, which is also an identification number assigned to the given sequence in the LifeSpan Biosciences databases. Figure 3 depicts GPCRs for which it has been reported that antibodies are commercially available, SEQ ID NOS. 1, 3, 5, 11, 13, 15, 21, 23, 25, 27, 29, 31, 35, 37, 39, 41, 43, 45, 49, 51, 53, 57, 59, 61, 63, 65, 67, 69, 70, 71, 73, 75, 77, 79, 83, 85, 97, 99, 101, 103, 105, 107, 113, 115, 117, 121, 125, 135, 139, 143, 145, 147, 151, 155, 157, 159, 161, 169, 171, 173, 175, 177, 183, 185, 187, 189, 191, 192, 194, 200, 202, 206, 208, 214, 216, 218, 228, 236, 238, 240, 248, 250, 264, 295, 299, 301, 305, 311, 313, 315, 317, 319, 321, 323, 325, 327, 329, 331, 333, 335, 337, 347, 349, 351, 361, 365, 367, 369, 371, 377, 379, 385, 387, 389, 391, 397.

423, 435, 439, 457, 459, 461, 462, 468, 470, 472, 503, 507, 515, 535, 537, 546, 548, 552, 562, 628, 636; Applicants do not represent that any of the antibodies in Figure 3 that such antibodies are actually commercially available nor that they have any significant specificity nor affinity for the GPCRs reported. For GPCRs for which no antigens or antibodies were previously known, the present invention provides valuable antigenic peptides and antibodies (see, e.g., SEQ ID NOS. 704-712, 731-743, 774-777, 803-806, 821-824, 876-879, 890-916, 942-949, 965-970, 985-988, 994-1009, 1014-1020, 1025-1028, 1044-1048, 1053-1056, 1073-1086, 1114-1123, 1152-1160, 1173-1178, 1188-1197, 1210-1227, 1232-1244, 1258-1270, 1280-1303, 1309-1368, 1373-1377, 1386-1389, 1394-1402, 1462-1482, 1496-1525, 1542-10 1549, 1557-1563, 1583-1649, 1656-1679, 1684-1688, 1693-1732, 1744-1752, 1765-1839, 1846-1854, 1855-1866, 1871-1917, 1926-1941, 1952-1955, 1960-1980, 1985-2141, 2152-2165, and 2170-2292.); for GPCRs for which antigens or antibodies are known, the present invention provides improved antigens in the form of antigenic peptides and improved antibodies (see, e.g., SEQ ID NOS. 692-703, 713-730, 744-802, 807-820, 825-875, 880-889, 917-941, 950-964, 971-984, 989-993, 1010-1013, 1021-1024, 1029-1043, 1049-1052, 1057-1072, 1087-1113, 1124-1151, 1161-1172, 1179-1187, 1198-1209, 1228-1231, 1245-1257, 1271-1279, 1304-1308, 1369-1372, which are antigenic peptides derived from GPCRs for which antibodies are reportedly commercially available). The antigenic peptides and antibodies, and uses and assays, etc., related to the antigenic peptides, are discussed further below.

The discussion herein, including the following passages, has been separated by [32] headings for convenience. The disclosure under a given heading is not restricted to that heading. For example, the discussion in the definitions section is a part of the disclosure of the invention, the discussion on antigenic peptides also contains discussion related to probes and diagnostics, and the discussion on antibodies contains discussion related to therapeutic compositions, etc.

#### B. **DEFINITIONS**

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The following paragraphs provide a non-exhaustive list of definitions of some of the [33] terms and phrases as used herein. All terms used herein, including those specifically described below in this section, are used in accordance with their ordinary meanings unless the context or definition indicates otherwise. Also unless indicated otherwise, except within

the claims, the use of "or" includes "and" and vice-versa. Non-limiting terms are not to be construed as limiting unless expressly stated (for example, "including" means "including without limitation" unless expressly stated otherwise).

- [34] The terms set forth in this application are not to be interpreted in the claims as indicating a "means plus function" relationship unless the word "means" is specifically recited in a claim, and are to be interpreted in the claims as indicating a "means plus function" relationship where the word "means" is specifically recited in a claim. Similarly, the terms set forth in this application are not to be interpreted in method or process claims as indicating a "step plus function" relationship unless the word "step" is specifically recited in the claims, and are to be interpreted in the claims as indicating a "step plus function" relationship where the word "step" is specifically recited in a claim.
- "Agonist" indicates a substance, such as a molecule or compound, that interacts [35] with a particular GPCR, for example by binding to the GPCR, to activate, increase, or prolong the amount or the duration of the effect of the biological activity or functionality of the GPCR. Agonists include proteins, nucleic acids, carbohydrates, or any other molecules that bind to and positively modulate the effect of the GPCR. Agonists and other modulators of the particular GPCR can be identified using in vitro or in vivo assays for G protein-coupled receptor expression or G protein-mediated signaling. For example, assays for agonists and other modulators include expressing a particular GPCR in cells or cell membranes, applying putative modulator compounds in the presence or absence of a specific known or putative ligand and then determining the functional effects on the particular GPCR-mediated signaling. Samples or assays comprising a particular GPCR that are treated with a potential agonist or other modulator are compared to control samples without the agonist or other modulator to examine the extent of modulation. Control samples can be assigned a relative activity value for the particular GPCR of 100%. Agonist activity on a particular GPCR is achieved when the G protein-coupled receptor activity value relative to the control is at least about 110%, optionally about 150%, preferably about 200-500%, or about 1000-3000% or higher. Down-modulation (for example by an antagonist) of a particular GPCR is achieved when the particular GPCR activity value relative to the control is at most about 90%, typically about 80%, optionally about 50% or about 25-0% of the 100% value.
- [36] "Aggregate," see Complex.

[37] "Algorithm" refers to a detailed sequence of actions to perform to accomplish some task. In computer programming, refers to instructions given to the computer.

- [38] "Allele" or "allelic sequence" indicates an alternative form of the gene encoding the GPCR. Alleles may result from at least one mutation in the nucleic acid sequence and may result in altered mRNAs or in polypeptides whose structure or function may or may not be altered. Any given natural or recombinant gene may have none, one, or many allelic forms. Common mutational changes that give rise to alleles are generally ascribed to natural deletions, additions, or substitutions of nucleotides. Each of these types of changes may occur alone or in combination with the others, one or more times in a given sequence.
- "Altered" nucleic acid sequences encoding the GPCR include those sequences with [39] 10 deletions, insertions, or substitutions of different nucleotides, resulting in a polynucleotide encoding the same GPCR or a polypeptide variant with at least one substantial structural or functional characteristic of the GPCR. Included within this definition are polymorphisms that may or may not be readily detectable using a particular oligonucleotide probe against the polynucleotide encoding the GPCR. "Altered" proteins may contain deletions, insertions, or substitutions of amino acid residues that produce a silent change and result in a functionally equivalent GPCR. Deliberate amino acid substitutions may be made on the basis of similarity in polarity, charge, solubility, hydrophobicity, hydrophilicity, or the amphipathic nature of the residues, as long as the biological or immunological activity of the GPCR is retained. For example, negatively charged amino acids may include aspartic acid and 20 glutamic acid, positively charged amino acids may include lysine and arginine, and amino acids with uncharged polar head groups having similar hydrophilicity values may include leucine, isoleucine, and valine; glycine and alanine; asparagine and glutamine; serine and threonine; and phenylalanine and tyrosine.
- 25 [40] "Alternative splicing" refers to different ways of cutting and assembling exons to produce mature mRNAs.
  - [41] "Amino acid" refers generally to any of a class of organic compounds that contains at least one amino group, -NH<sub>2</sub>, and one carboxyl group, -COOH. The alpha-amino acids, RCH(NH<sub>2</sub>)COOH, are the building blocks from which proteins are typically constructed. Amino acid can also refer to artificial chemical analogues or mimetics of a given amino acid as described, depending on the context.

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[42] "Amino acid sequence" refers to a string of amino acids, such as an oligopeptide, peptide, polypeptide, or protein sequence, or a fragment of any of these, including naturally occurring or synthetic molecules and those comprising an artificial chemical analogue or mimetic of a given amino acid. In this context, "biologically active fragments," "biologically functional fragments," "immunogenic fragments," and "antigenic fragments" refer to fragments of the GPCR that are preferably about 15, 25, or 50 or more amino acids in length and that retain a substantial amount of such activity of the GPCR. Where "amino acid sequence" refers to an amino acid sequence of a naturally occurring protein molecule, "amino acid sequence" and like terms are not necessarily limited to the complete native amino acid sequence associated with the recited protein molecule.

- [43] "Amplification" indicates the production of additional copies of something, such as a nucleic acid sequence. Amplification can be generally carried out using polymerase chain reaction (PCR) technologies or other technologies such as the cycling probe reaction (CPR) that are well known in the art. See, e.g., Dieffenbach, C. W. and G. S. Dveksler, PCR Primer, a Laboratory Manual, pp.1-5, Cold Spring Harbor Press, Plainview, N.Y. (1995); U.S. Patents Nos. 5,660,988, 5,731,146 and 6,136,533.
- [44] "Amplification primers" are oligonucleotides such as natural, analog or artificially created nucleotides that can serve as the basis for the amplification of a selected nucleic acid sequence. They include, for example, both PCR primers and ligase chain reaction oligonucleotides.

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[45] "Analog" or "variant" indicates a GPCR or antigenic peptide that has been modified by deletion, addition, modification, or substitution of one or more amino acid residues compared to the wild-type sequence. Analogs encompass allelic and polymorphic variants, and also muteins and fusion proteins that comprise all or a significant part of such GPCR, e.g., covalently linked via side-chain group or terminal residue to a different protein, polypeptide, or moiety (fusion partner). Variants of a particular GPCR protein refer to an amino acid sequence that is altered by one or more amino acids, for example by one or more amino acid substitution, insertion, deletion or modification, or proteins with or without associated native-pattern glycosylation. The variant may have "conservative" changes. Such "conservative" changes generally are well known in the art and readily determinable for a particular GPCR in view of the present application. Conservative changes include, for example, substitutions where a substituted amino acid has similar structural or chemical

properties to the amino acid it replaced (e.g., negatively charged amino acids include aspartic acid and glutamic acid; positively charged amino acids include lysine, arginine, histidine, asparagine, and glutamine; amino acids containing sulfur include methionine and cysteine; polar hydroxy amino acids include serine, threonine, and tyrosine; large hydrophobic amino acids include phenylalanine and tryptophan; small hydrophobic amino acids include alanine, leucine, isoleucine, and valine). A variant may also have "nonconservative" changes which means that the replacement amino acid provides some substantial change in the amino sequence.

A variant preferably retains at least about 90% identity, and more preferably at least [46] about 95% identity. Within certain embodiments, such variants contain alterations such that the ability of the variant to induce an immunogenic response is not substantially eliminated; in some embodiments the ability to an immunogenic response is not substantially diminished. Modifications of amino acid residues may include but are not limited to aliphatic esters or amides of the carboxyl terminus or of residues containing carboxyl side chains, O-acyl derivatives of hydroxyl group-containing residues, and N-acyl derivatives of the aminoterminal amino acid or amino-group containing residues, e.g., lysine or arginine. Guidance in determining which and how many amino acid residues may be substituted, inserted, deleted or modified without diminishing immunological or biological activity may be found in view of the present application using any of a variety of methods and computer programs known in the art, for example, DNASTAR software. Properties of a variant may generally be evaluated by assaying the reactivity of the variant with, for example, antibodies as described herein or evaluating a biological activity characteristic of the native protein as described herein or as known in the art in view of the present application. Certain polynucleotide variants are capable of hybridizing under appropriately stringent conditions to a naturally occurring DNA sequence encoding a particular GPCR protein (or a complementary sequence). hybridizing nucleic acid sequences are also within the scope of this invention.

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[47] "Antagonist" refers to a molecule which interacts with a particular GPCR, for example by binding to the particular GPCR, and prevents, inactivates, decreases or shortens the amount or the duration of the effect of the biological activity of the GPCR. Antagonists include proteins, nucleic acids, carbohydrates, antibodies, or any other molecules that so affect the GPCR. Antagonists can be identified, for example, using appropriate screens

corresponding to those described for agonists above and elsewhere herein or as would be apparent to those skilled in the art in view of the present application.

- "Antibody" indicates one type of binding partner, typically encoded by an [48] immunoglobulin gene or immunoglobulin genes, and refers to, for example, intact monoclonal antibodies (including agonist and antagonist antibodies), polyclonal antibodies, phage display antibodies, and multispecific antibodies (e.g., bispecific antibodies) formed, for example, from at least two intact antibodies. Antibody also refers to fragments thereof, which comprise a portion of an intact antibody, generally the antigen-binding or variable region of the intact antibody that are capable of binding the epitopic determinant. Examples 10 of antibody fragments include Fab, Fab', F(ab')2, and Fv fragments, diabodies, linear antibodies, single-chain antibody molecules, and multispecific antibodies formed from antibody fragments. See US Patent No. 6,214,984. Antibody fragments may be synthesized by digestion of an intact antibody or synthesized de novo either chemically or utilizing recombinant DNA technology. Antibodies according to the present invention have at least 15 one of adequate specificity, affinity and capacity to perform the activities desired for the antibodies. Antibodies can, for example, be monoclonal, polyclonal, or combinatorial. Antibodies that bind GPCR polypeptides can be prepared using intact polypeptides or using fragments containing small peptides of interest as the immunizing antigen. The polypeptide or oligopeptide used to immunize an animal (e.g., a mouse, a rat, or a rabbit) can be derived from the translation of RNA, or synthesized chemically, and can be conjugated to a carrier protein if desired. Commonly used carriers that are chemically coupled to pepfides include bovine serum albumin, thyroglobulin, and keyhole limpet hemocyanin (KLH). The coupled peptide is then used to immunize the animal.
  - [49] "Antigenic determinant" refers to the antigen recognition site on an antigen (i.e., epitope). Such antigenic determinant may also be immunogenic.
    - [50] "Antisense" refers to any composition containing a nucleic acid sequence that is complementary to a specific nucleic acid sequence. "Antisense strand" refers to a nucleic acid strand that is complementary to the "sense" strand. Antisense molecules may be produced by any method including transcription or synthesis including synthesis by ligating the gene(s) of interest in a reverse orientation to a desired promoter that permits the synthesis of a complementary strand. Once introduced into a cell, the complementary nucleotides can combine with natural sequences produced by the cell to form duplexes and to block either

transcription or translation. The designation "negative" can refer to the antisense strand, and the designation "positive" can refer to the sense strand.

- [51] "Biologically active" or "biologically functional," when referring to an antigenic peptide, indicates that the antigenic peptide induces an immunogenic response specific for the antigenic peptide and thus for the GPCR from which is was obtained. A variant, fragment, etc., of an antigenic peptide is "biologically active" or "biologically functional" if the ability to induce the specific immunogenic response is not substantially diminished. The term "not substantially diminished" means retaining a functionality that is at least about 90% of the functionality of the native antigenic peptide. Appropriate assays designed to evaluate such functionality may be designed based on existing assays known in the art in view of the present application, or on the representative assays provided herein.
  - [52] "Annotation" refers to the provision of helpful or identifying information about a GPCR or other open reading frame (ORF), such as locus name, key words, and Medline references.
- 15 [53] "BLAST" refers to the Basic Local Alignment Search Tool, which is a technique for detecting ungapped sub-sequences that match a given query sequence. BLAST can be used as a preliminary step for detecting ORF boundaries.
  - [54] "BLASTP" refers to a BLAST program that compares an amino acid query sequence against a protein sequence database.
- 20 [55] "BLASTX" refers to a BLAST program that compares the six-frame conceptual translation products of a nucleotide query sequence (both strands) against a protein sequence database. BLASTX can be used to create a sub-database of ORFs which may exist on a contig, and to identify the best match between one of these ORFs and a sequence in an external database.
- 25 [56] "Buffer" refers to a component in a solution to provide a buffered solution that resists changes in pH by the action of its acid-base conjugate components.
  - [57] "CDS" refers to the GenBank DNA sequence entry for coding sequence. A coding sequence is a sub-sequence of a DNA sequence that is surmised to encode a gene. A complete gene coding sequence begins with an "ATG" and ends with a stop codon.
- 30 [58] "Clone" in molecular biology refers to a vector carrying an insert DNA sequence.
  - [59] "Cloning" in molecular biology refers to a recombinant DNA technique used to produce multiple, up to millions or more, copies of a DNA sequence. The DNA sequence is

inserted into a small carrier or vector (e.g., plasmid, bacteriophage, or virus) and inserted into a host cell for amplification or expression.

- [60] "Cluster" refers to a group of ORFs related to one another by sequence homology. Clusters are generally determined by a specified degree of homology and overlap (e.g., a stringency).
- [61] "Comparison window" indicates a segment of any one of the number of contiguous positions selected from the group consisting of from 20 to 600, usually about 50 to about 200, more usually about 100 to about 150 in which a sequence may be compared to a reference sequence of the same number of contiguous positions after the two sequences are aligned to enhance sequence similarity. Methods of alignment of sequences for comparison will be readily apparent to a person of ordinary skill in the art in view of the present application.
- [62] "Complementary" or "complementarity" refers to the natural binding of polynucleotides by base pairing. For example, the sequence "A-G-T" binds to the complementary sequence "T-C-A." Complementarity between two single-stranded molecules may be "partial," such that only some of the nucleic acids bind, or it may be "complete," such that all of the nucleotides of at least one of the single-stranded molecules binds to corresponding nucleotides of the other single-stranded molecule. The degree of complementarity between nucleic acid strands has significant effects on the efficiency and strength of the hybridization between the nucleic acid strands. This can be of particular importance in amplification reactions, which can depend upon binding between nucleic acids strands, and in the design and use of peptide nucleic acid (PNA) molecules.
  - [63] "Complex," or "aggregate," indicates a dimer or multimer formed between at least two proteins or other macromolecules, for example a GPCR and its ligand.
  - [64] "Composition" indicates a combination of multiple substances into a mixture.
- 25 [65] "Composition comprising a given amino acid sequence" refers broadly to any composition containing the given amino acid sequence. The composition may comprise a dry formulation, an aqueous solution, or a sterile composition.
- [66] "Consensus sequence" refers to the sequence that reflects the most common choice of base or amino acid at each position from a series of related DNA, RNA, or protein sequences. Areas of particularly good agreement often represent conserved functional domains. The generation of consensus sequences has typically been subjected to intensive mathematical analysis.

- [67] "Conservative changes" to an amino acid sequence, see Analog.
- [68] "Deletion" refers to a change in the amino acid or nucleotide sequence that results in the absence of one or more amino acid residues or nucleotides.
- [69] "Derivative" refers to chemical modification of an antigenic peptide, or of an
   antibody specific for and created from the antigenic peptide. A derivative peptide can be modified, for example, by glycosylation or pegylation.
  - [70] "Diabodies" refers to one type of antibody comprising small antibody fragments with two antigen-binding sites, which fragments comprise a heavy-chain variable domain (V<sub>H</sub>) connected to a light-chain variable domain (V<sub>L</sub>) on the same polypeptide chain (V<sub>H</sub>-V<sub>L</sub>).
- By using a linker that is too short to allow pairing between the two domains on the same chain, the domains pair with the complementary domains of another chain and create two antigen-binding sites. Diabodies are described, for example, in EP 404,097; WO 93/11161; and Holliger et al., Proc. Natl. Acad. Sci. USA, 90:6444-6448 (1993).
- [71] "Database" refers to a structured format for organizing and maintaining information or data, a collection of data records, in a computer-readable form that can be rapidly and easily retrieved. A database is typically stored in a computer-readable memory. Records may comprise web pages, graphics, audio files, text files, or links. Records may or may not be further broken into fields. Database records are usually indexed and come with a search interface to find records of interest.
- 20 [72] "E-value" refers to a result of a FASTA analysis. The number indicates the probability that a match between two sequences is due to random chance.
  - [73] "Expression vector" is a specialized vector constructed so that the gene inserted in the vector can be expressed in the cytoplasm of a host cell.
  - [74] "FASTA" refers to a modular set of sequence comparison programs used to compare an amino acid or DNA sequence against all entries in a sequence database. FASTA was written by Professor William Pearson of the University of Virginia Department of Biochemistry. The program uses the rapid sequence algorithm described by Lipman and Pearson (1988) and the Smith-Waterman sequence alignment protocol. FASTA performs a protein to protein comparison.
- 30 [75] "FASTX" refers to a module of the FASTA protocol used to define optimal ORF boundaries while searching for genes. FASTX uses a nucleotide to protein sequence comparison.

- [76] "Fragment," see Portion.
- [77] "GenBank" refers to a family of public databases comprising nucleic acid and amino acid sequence information, including the GenPept bacterial peptide database.
- [78] "Gene" refers to the basic unit of heredity that carries the genetic information for a given RNA or protein molecule. A gene is composed of a contiguous stretch of DNA and contains a coding region that is flanked on each end by regions that are transcribed but not translated. A gene is a segment of DNA involved in producing a biologically active or biologically functional polypeptide chain.
- "Heterologous" indicates a nucleic acid that comprises two or more subsequences that are not found in the same relationship to each other in nature. For instance, the nucleic acid is typically recombinantly produced, having two or more sequences from unrelated genes arranged to make a new functional nucleic acid, e.g., a promoter from one source and a coding region from another source. Similarly, a heterologous protein indicates that the protein comprises two or more subsequences that are not found in the same relationship to each other in nature (e.g., a fusion protein).
  - [80] "Hit Threshold" refers to a pre-set E-value or P-value for evaluating sequence matches. For example, this value can be set at le-6 for finding genes; and at le-15 for clustering genes.
- [81] "Homology" refers to a degree of complementarity. There may be partial homology or complete homology. The word "identity" may substitute for the word "homology." A partially complementary sequence that at least partially, and substantially, inhibits a corresponding sequence from hybridizing to a target nucleic acid is referred to as "substantially homologous." The inhibition of hybridization of the completely complementary sequence to the target sequence may be examined using a hybridization assay (e.g., Southern or Northern blot, in situ hybridization, solution hybridization) under conditions of reduced stringency. A substantially homologous sequence or hybridization probe will compete for and inhibit the binding of a completely homologous sequence to the target sequence under stringency conditions that inhibit non-specific binding but permit specific binding. The absence of non-specific binding may be tested by the use of a second target sequence which lacks even a partial degree of complementarity (e.g., less than about 30% homology or identity). In the absence of non-specific binding, the substantially

homologous sequence or probe will not hybridize to the second, non-complementary target sequence.

- "Humanized antibody" refers to antibody molecules in which the amino acid [82] sequence in the non-antigen-binding regions has been altered so that the antibody more closely resembles a human antibody, and still retains its original binding ability. Typically, humanized antibodies are human immunoglobulins (recipient antibody) in which residues from a complementarity-determining region (CDR) of the recipient are replaced by residues from a CDR of a non-human species (donor antibody) such as mouse, rat or rabbit having the desired specificity, affinity, and capacity. In some instances, Fv framework residues of the human immunoglobulin are replaced by corresponding non-human residues. Furthermore, humanized antibodies may comprise residues that are found neither in the recipient antibody nor in the imported CDR or framework sequences. These modifications are typically made to further refine and optimize antibody performance. In general, the humanized antibody will comprise substantially all of at least one, and typically two, variable domains, in which all or substantially all of the CDR regions correspond to those of a non-human immunoglobulin and all or substantially all of the framework (FR) regions are those of a human immunoglobulin sequence. The humanized antibody optimally also will comprise at least a portion of an immunoglobulin constant region (Fc), typically that of a human immunoglobulin. For further details see, e.g., Jones et al., Nature, 321:522-525 (1986); Reichmann et al., Nature, 332:323-329 (1988); and, Presta, Curr. Op. Struct. Biol., 2:593-596 (1992).
  - [83] "Identity," see Homology.
  - [84] "Immunocytochemistry" refers to the use of immunologic methods, including a specific antibody, to study cell constituents.
- 25 [85] "Immunohistochemistry" refers to the use of immunologic methods, including a specific antibody, to study specific antigens in tissue slices.
  - [86] "Immunolocalization" refers to the use of immunologic methods, including a specific antibody, to locate molecules or structures within cells or tissues.
  - [87] "Immunologically active" refers to the capability of a natural, recombinant, or synthetic GPCR, or any immunogenic fragment thereof, to induce a specific immune response in appropriate animals or cells and to bind with specific antibodies. A polypeptide is "immunologically active" if it is recognized by (e.g., specifically bound by) a B-cell or T-

cell surface antigen receptor. Immunological activity may generally be assessed using well known techniques, such as those summarized in Paul, Fundamental Immunology, 3rd ed., 243-247, Raven Press (1993) and references cited therein. Such techniques include screening polypeptides derived from the native polypeptide for the ability to react with antigen-specific antisera or T-cell lines or clones, which may be prepared in view of the present application using well known techniques. Preferably, an immunologically active portion of a GPCR protein reacts with such antisera or T-cells at a level that is not substantially lower than the reactivity of the full-length polypeptide (e.g., in an ELISA or T-cell reactivity assay). Such screens may generally be performed using methods well known to those of ordinary skill in the art in view of the present application, such as those described in Harlow and Lane, Antibodies: A Laboratory Manual, Cold Spring Harbor Press (1988). B-cell and T-cell epitopes may also be predicted via computer analysis.

[88] "Immune response" refers to any of the body's immunologic reactions to an antigen such as antibody formation, cellular immunity, hypersensitivity, or immunological tolerance.

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- [89] "Insertion" and "addition" when referring to a change in a nucleotide or amino sequence indicate the addition of one or more nucleotides or amino acid residues, respectively, to the sequence.
- [90] "In situ hybridization" refers to use of a nucleic acid probe, typically a DNA or RNA probe, to detect the presence of a DNA or RNA sequence in target cells such as cloned bacterial cells, cultured eukaryotic cells, or tissue samples. In situ hybridization can also be used for locating genes on chromosomes. The process can be performed by preparing a microscope slide with cells in metaphase of mitosis, then treating slide with a weak base to denature the DNA. Next, pour radioactively labeled probe onto the slide under hybridizing conditions, expose the slide to a photographic emulsion for a suitable period such as a few days or weeks, then develop the emulsion.
  - [91] "Isoform" refers to different forms of a protein that may be produced from different genes or from the same gene by alternative RNA splicing.
  - [92] "Isolated" generally means that the material is removed from its original environment (e.g., the natural environment if it is naturally occurring).
    - [93] "Library" refers physically to a pool of nucleic acid fragments that has been propagated in a cloning vector. Library can also refer to an electronic collection of genomic

or proteomic sequence data, including raw sequences, contigs, ORFs and loci from a specific organism.

- [94] "Ligand" refers to an ion or molecule that binds with another molecule, such as a GPCR, to form a macromolecule such as a receptor-ligand complex. An "endogenous ligand" refers to a native ligand that binds to the receptor of the GPCR and modulates biological activity or functionality of the GPCR in its native environment. A "specific ligand" is a ligand able to bind to a particular GPCR and modulate the biological activity or functionality of the particular GPCR; an endogenous ligand is one example of a specific ligand.
- 10 [95] "Microarray" refers to an array of distinct nucleic acid or amino acid molecules arrayed on a substrate, such as paper, nylon or any other type of membrane, filter, chip, glass slide, or any other suitable solid support. Microarrays can also refer to tissue microarrays, composed of small tissue pieces arranged on a slide. U.S. Pat. No. 5,143,854 and PCT Patent Publication Nos. WO 90/15070 and 92/10092.
- 15 [96] "Mimetic" refers to a molecule, e.g., a peptide or non-peptide agent, such as a small molecule, that is able to perform the same biological activity as a certain biologically active agent. For example, some mimetics are molecules comprising the same biological function or activity as the particular GPCR. The structure of the mimetic can be developed from knowledge of the structure of the particular GPCR or portions thereof. For appropriate mimetics, the mimetic is able to effect some or all of the actions of a given antigenic peptide or antibodies against the angtigenic peptide. Such mimetics can be made, in view of the present application, using techniques well known in the art, see, e.g., U.S. Patent Nos. 6,197,752; 6,093,697; 6,207,643; 5,849,323, and can be included in the various processes, methods, and systems, etc., described herein, such as databases, binding partner assays, probes, medicaments, and therapeutics.
  - [97] "Modulate" refers to controllably changing the activity of a substance or other item, such as the biological activity of a GPCR, antigenic peptide or corresponding antibody. For example, modulation may cause an increase or a decrease in protein activity, binding characteristics, or other biological, functional, or immunological properties of the GPCR.
  - [98] "Monoclonal antibody" refers to an antibody obtained from a population of substantially homogeneous antibodies, e.g., the individual antibodies comprising the population are identical except for possible naturally occurring mutations that may be present

in minor amounts. Monoclonal antibodies include "chimeric" antibodies (immunoglobulins) in which a portion of the heavy or light chain is identical with or homologous to corresponding sequences in antibodies derived from a particular species or belonging to a particular antibody class or subclass, while the remainder of the chain(s) is identical with or homologous to corresponding sequences in antibodies derived from another species or belonging to another antibody class or subclass, as well as fragments of such antibodies, so long as they exhibit the desired biological activity. U.S. Pat. No. 4,816,567; Morrison et al., P.N.A.S. USA, 81:6851-6855 (1984). Monoclonal antibodies are highly specific, being directed against a single antigenic site. As a matter of distinction, polyclonal antibody preparations typically include different antibodies directed against different determinants (epitopes) of a target antigen whereas each monoclonal antibody is directed against a single determinant on the antigen. Monoclonal antibodies can be synthesized by hybridoma culture, uncontaminated by other immunoglobulins. For example, the monoclonal antibodies to be used in accordance with the present invention may be made by the hybridoma method first described by Kohler and Milstein, Nature, 256:495 (1975), or may be made by recombinant DNA methods. See, e.g., U.S. Pat. No. 4,816,567. Monoclonal antibodies may also be isolated from phage antibody libraries using the techniques described in Clackson et al., Nature, 352:624-628 (1991), and Marks et al., J. Mol. Biol., 222:581-597 (1991), for example. The modifier "monoclonal" indicates the character of the antibody as being obtained from a substantially homogeneous population of antibodies, and is not to be construed as requiring production of the antibody by any particular method.

- [99] "Nonconservative" changes to an amino acid sequence, see Analog.
- [100] "Northern blotting" or "Northern analysis" refers to a method used to detect specific RNA sequences. For example, the process can be performed by electrophoresing RNA in a denaturing agarose gel, transferring the gel onto a membrane, and hybridizing with a labeled RNA or DNA probe.
- [101] "Nucleic acid sequence" refers to a polymer comprising a string of "nucleic acids" such as an oligonucleotide, or a polynucleotide or fragment thereof. The nucleic acid sequence can be from DNA or RNA of genomic or synthetic origin, may be single-stranded or double-stranded, and may represent the sense or the antisense strand. A nucleic acid sequence can also be a PNA or a DNA-like or RNA-like material. Unless stated otherwise,

the term encompasses nucleic acids containing known analogues or mimetics of natural nucleotides that have similar binding properties as the reference nucleic acid.

[102] "Oligonucleotide" refers to a nucleic acid sequence, generally between 6 nucleotides to 60 nucleotides, preferably about 15 to 30 nucleotides, and most preferably about 20 to 25 nucleotides, that can, for example, be used in PCR or other nucleic acid amplification or in a hybridization assay or microarray. "Oligonucleotide" includes "amplimers," "primers," "oligomers," and "probes," as these terms are commonly defined in the art. Oligonucleotides can be chemically synthesized. Such synthetic oligonucleotides may have no 5' phosphate and if so will not ligate to another oligonucleotide without adding a phosphate, typically by using an ATP in the presence of a kinase. A synthetic oligonucleotide will ligate to a fragment that has not been dephosphorylated.

[103] "Operably linked" or "operably connected" indicates that one element of an apparatus, system, or method, etc., is connected to another element of the apparatus, system, or method, etc., such that the two elements are able to perform their intended purposes. For example, when a promoter is linked to a polynucleotide to allow transcription of the polynucleotide, it is "operably linked" to the polynucleotide.

[104] "Orphan receptor" refers to a receptor for which the endogenous ligand or other ligands inducing biological activity are not known.

[105] "PCR" or "polymerase chain reaction" refers to an *in vitro* method that uses oligonucleotide primers, enzymes, and a series of repetitive temperature cycles to generate millions of copies of a nucleic acid, typically DNA, from an original specimen of a specific DNA sequence, which specimen may be present only in a trace amount.

[106] "Plasmids" refers to extrachromasomal genetic elements composed of DNA or RNA found in both eukaryotic and prokaryotic cells that can propagate themselves autonomously in cells. Plasmids can be used as carriers or vectors to clone DNA molecules. They are designated by a lower case p preceded or followed by capital letters or numbers. The starting plasmids herein are either commercially available, publicly available on an unrestricted basis, or can be constructed from available plasmids in accord with published procedures. In addition, equivalent plasmids to those described are known in the art and will be apparent to the ordinarily skilled artisan in view of the present application.

[107] "Polynucleotide encoding a polypeptide" indicates a polynucleotide that includes only the coding sequence for the polypeptide as well as polynucleotides that include additional coding or non-coding sequence.

- [108] "Portion" or "fragment" with regard to a protein (as in "a portion of a given protein") refers to parts of that protein, a subsequence of the complete amino acid sequence of the receptor containing at least about 8, usually at least about 12, more typically at least about 20, and commonly at least about 30 or more contiguous amino acid residues, up to the entire amino acid sequence minus one amino acid. Thus, a protein "comprising at least a portion of the amino acid sequence of SEQ ID NO:XX" or a protein "comprising at least a portion of the amino acid sequence of a particular GPCR" encompasses the full-length protein and fragments thereof. A portion or fragment of a nucleic acid refers to nucleic acid sequences that are greater than about 12 nucleotides in length, and typically at least about 60 or 100 nucleotides, generally at least about 1000 nucleotides, or at least about 10,000 nucleotides in length, up to the entire nucleic acid sequence minus one nucleic acid.
- 15 [109] "P-value" is a statistical term used to indicate the probability that an event is due to random chance. When used in reference to a result of BLAST searches, the number indicates the probability that a match between two sequences is due to random chance.
  - [110] "Receptor" refers to a molecular structure, typically within a cell or on a cell surface, that selectively binds a specific substance (a ligand) and a specific physiologic effect that accompanies the binding. GPCRs are a type of cell-surface receptor, which means a protein in, on, or traversing the cell membrane (in the case of GPCRs, traversing the cell membrane) that recognizes and binds to specific molecules in the surrounding fluid. The binding to a receptor may serve to transport molecules into the cell's interior or to signal the cell to respond in some way.
- 25 [111] "Recombinant" refers to both a method of production and a structure. Some recombinant nucleic acids and proteins are made by the use of recombinant DNA techniques that involve human intervention, either in manipulation or selection. Others are made by fusing two fragments that are not naturally contiguous to each other. Engineered vectors are encompassed, as well as nucleic acids comprising sequences derived using any synthetic oligonucleotide process.
  - [112] "Sample" is used in its usual broad sense. For example, a biological sample suspected of containing nucleic acids encoding the GPCR, or fragments thereof, or the GPCR

itself, may comprise a bodily fluid; an extract from a cell, chromosome, organelle, or membrane from a cell; a cell; genomic DNA, RNA, or cDNA (in solution or bound to a solid support); a tissue; a tissue print, and the like. Biological sample refers to samples from a healthy individual as well as to samples from a subject suspected of having or susceptible to having, e.g., immune-related diseases, cell growth-related diseases, cell regeneration-related diseases, immunological-related cell proliferative diseases, and autoimmune diseases. Examples of specific diseases include AIDS, allergies, Alzheimer's disease, amyotrophic lateral sclerosis, atherosclerosis, bacterial, fungal, protozoan and viral infections, benign prostatic hypertrophy, bone diseases (e.g., osteoarthritis, osteoporosis), carcinoma (e.g., basal cell carcinoma, breast carcinoma, embryonal carcinoma, ovarian carcinoma, renal cell carcinoma, lung adenocarcinoma, lung small cell carcinoma, pancreatic carcinoma, prostate carcinoma, transitional carcinoma of the bladder, squamous cell carcinoma, thyroid carcinoma), cardiomyopathy, chronic and acute inflammation, circadian rhythm disorders, COPD, Crohn's disease, diabetes, Duchenne muscular dystrophy, embryonal carcinoma, endotoxic shock, environmental stress (e.g., by heat, UV or chemicals), gastrointestinal disorders, glioblastoma multiform, graft vs. host disease, Hodgkin's disease, inflammatory bowel disease, ischemia, stroke, lymphoma, macular degeneration, malignant cytokine production, malignant fibrous histiocytoma, melanoma, meningioma, mesothelioma, multiple sclerosis, nasal congestion, pain, Parkinson's disease, prostate carcinoma, psoriasis, rhabdomyosarcoma, psychotic or neurological disorders (e.g., anxiety, depression, schizophrenia, dementia, mental retardation, memory loss, epilepsy, locomotor problems, respiratory disorders, asthma, eating/body weight disorders including obesity, bulimia, diabetes, anorexia, nausea, hypertension, hypotension), renal disorders, reperfusion injury, rheumatoid arthritis, sarcoma (e.g., chondrosarcoma, Ewing's sarcoma, osteosarcoma), septicemia, seminoma, sexual/reproductive disorders, tonsil, transitional carcinoma of the bladder, transplant rejection, trauma, tuberculosis, ulcers, ulcerative colitis, urinary retention, vascular and cardiovascular disorders, or any other disease or disorder in which G proteincoupled receptors are involved, as well as learning and/or memory disorders, diabetes, pain perception disorders, anorexia, obesity, hormonal release problems, or any other disease or disorder in which a specific GPCR is involved.

[113] "Second messengers" refer to intracellular signaling molecules such as cyclic AMP (cAMP), inositol triphosphate, diacylglycerol, or Ca<sup>2+</sup>. Second messengers, in turn, alter the

activity of other intracellular proteins such as cAMP-dependent protein kinase and Ca<sup>2+</sup>/calmodulin-dependent protein kinases, leading to the transduction and amplification of the original extracellular signal.

- [114] "Southern blotting" refers to a method for detecting specific DNA sequences via hybridization. For example, a DNA sample can be electrophoresed in a denaturing agarose gel, transferred onto a membrane, and hybridized with a complementary nucleic acid probe. "Southern" when used in reference to a database indicates an electronic analog of the laboratory technique, which analysis can be used to identify libraries in which a given DNA sequence, such as a gene, EST, or ORF is present. The terms "Northern" and "Western" likewise can be used for electronic analogs to the respective laboratory techniques described above.
  - [115] "Specific binding" or "specifically binding" refers to an interaction between protein or peptide and a certain substance, such as its specific ligand or antibody, and in some cases its agonists or antagonists. The interaction is dependent upon the presence of a particular structure of the protein recognized by the binding molecule (e.g., the antigenic determinant or epitope). For example, if an antibody specifically binds epitope "A," the presence of a polypeptide containing epitope A or the presence of free unlabeled epitope A will reduce the amount of labeled epitope A that binds to the antibody in a reaction containing free labeled epitope A and the antibody. Conversely, the presence of a polypeptide that does not contain epitope A will not reduce the amount of labeled epitope A that binds to the antibody. Highly specific binding indicates that the protein or peptide binds to its particular ligand, antibody, etc., and does not bind in a significant amount to other proteins present in the sample. Typically, a specific or selective reaction will be at least twice the background signal or noise and more typically more than 10 to 100 times the background signal or noise.

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[116] "Stringent conditions" refer to conditions that permit hybridization between complementary polynucleotide sequences. Suitably stringent conditions can be defined by, for example, the concentrations of salt or formamide in the prehybridization and hybridization solutions, or by the hybridization temperature. Stringency can be increased by reducing the concentration of salt, increasing the concentration of formamide, or raising the hybridization temperature. Stringent conditions are dependent upon the type of probe as well as the length of the probe and the GC content of the probe. "Stringent conditions" typically

occur within a range from about Tm-5°C (5°C below the melting temperature (Tm) of the probe) to about Tm-20-25°C for a cRNA probe and to about Tm-15°C for an oligonucleotide "Highly stringent conditions" refers to conditions under which a probe will hybridize to its target sequence, typically in a complex mixture of nucleic acid sequences, but will not substantially hybridize to other sequences. One example of high stringency conditions for a cRNA probe that is 1,000 nucleotides in length and has a GC content of about 60% is about 55-65°C in 50% formamide, 0.1 X SSC, and 200 µg/ml sheared and denatured salmon sperm DNA. One example of low stringency conditions for the same probe in 50% formamide, 0.1 X SSC, and 200 µg/ml sheared and denatured salmon sperm DNA would be 30-35°C. "Very highly stringent conditions" indicates that there must be complete identity between the sequences. The temperature range corresponding to a particular level of stringency can be narrowed further by calculating the purine to pyrimidine ratio of the nucleic acid of interest and adjusting the temperature accordingly. Variations on and modifications of the above ranges and conditions will be readily appreciated by those of skill in the art in view of the present application. As will be understood by those of skill in the art in view of the present application, the stringency of hybridization can be altered to identify or detect identical or related polynucleotide sequences. One guide for nucleic acid hybridization is Tijssen, Laboratory Techniques in Biochemistry and Molecular Biology-v.24 Hybridization with Nucleic Acid Probes, Part I "Overview of principles of hybridization and the strategy of nucleic acid assays" (New York: Elsevier 1993).

[117] "Substantially purified" refers to nucleic acid or amino acid sequences that are removed from their natural environment and are separated from other components from such natural environment, and are at least about 60% free, preferably about 75% or 85% free, and most preferably about 90%, 95% or 99% free from such other components with which they are naturally associated. Substantially purified preferably indicates a substantially homogeneous state and can be in either a dry or aqueous solution or other composition as desired. Purity and homogeneity can be assayed by standard methods, for example on a mass or molar basis, using analytical chemistry techniques such as polyacrylamide gel electrophoresis or high performance liquid chromatography.

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[118] "Substitution" when referring to a change in a nucleotide or amino sequence indicates the replacement of one or more nucleotides or amino acids by different nucleotides or amino acids, respectively.

- [119] "Variant," see Analog.
- 5 [120] "Western blotting" or "Western analysis" refers to a method for detecting specific protein sequences. For example, the process can be performed by electrophoresing a protein mixture in a denaturing agarose or acrylamide gel, transferring the mixture onto a membrane, and incubating it with an antibody raised against the protein of interest.
  - [121] Other terms and phrases are defined in other portions of this application.

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## C. SELECTION OF DESIRED ANTIGENIC PEPTIDES FOR GPCRs AND OTHER POLYPEPTIDES

[122] The present invention provides improved antigenic peptides, for example as set forth in Figure 2, SEQ ID NOS. 692-2292, and improved methods of identifying such antigenic peptides from known or publicly available sequences of polypeptides or proteins, i.e., from a candidate polypeptide sequence. Polypeptide and protein are used in their traditional sense to indicate lengthy amino acid molecules, whereas the antigenic peptide has a length significantly less than the length of the corresponding polypeptide or protein such that the antigenic peptide is capable of providing significantly improved antigenicity relative to the corresponding polypeptide or protein, typically improved specificity, affinity or avidity. The candidate polypeptide can be, for example, a human protein or polypeptide, a naturally occurring protein or polypeptide or a synthetic or recombinant protein or polypeptide.

[123] The antigenic peptides are typically 5 to about 100 amino acids in length, preferably 6 to about 50 amino acids, and further preferably 7 to about 20 amino acids. The antigenic peptides include short antigenic amino acid sequences (i.e., peptides comprising only a portion of an antigenic sequence as set forth in Figure 2 or as identified using the methods described herein, plus an insignificant number of additional amino acids at one or both ends, where insignificant indicates that the extra amino acids do not substantially interfere with the antigenicity of the antigenic peptide). Such short antigenic peptides can be identical to at least 5, 6, 7 or more consecutive amino acids of the sequences herein or identified using the methods described herein, or can have one or two (or more, with increasing length)

conservative amino acid substitution for antigenic peptides comprising more than 6 or 7 consecutive amino acids of the sequences herein or identified using the methods described herein. Antigenic peptides and sequences, and related antibodies and assays and the like, are discussed further elsewhere herein with regard to GPCRs, but such discussions applies to all antigenic peptides produced according to the methods herein, including proteins and polypeptides such as kinases, phosphatases and any other desired protein or polypeptide.

- [124] The identification or selection methods comprise searching the candidate polypeptide sequence using a comparison window of the desired length, then selecting against or rejecting amino acid sequences of the length and having at least 1 characteristic selected from the group consisting of 1) at least two consecutive prolines, 2) at least two consecutive serines, 3) at least two consecutive lysines, 4) at least two consecutive arginines, 5) at least two consecutive aspartic acids, 6) at least two consecutive glutamic acids, 7) methionine, 8) tryptophan, and 9) at least five consecutive amino acids comprising no charged amino acids. Preferably, at least 5, 7, 8, or all of the characteristics are selected.
- 15 [125] The identification or selection methods can also comprise selecting against amino acid sequences having at least 5 consecutive amino acids that are identical to an alternative amino acid sequence from an alternative polypeptide, i.e., some polypeptide other than the candidate polypeptide from which the selected antigen was derived, that is different from the candidate polypeptide, posttranslational modification sites, or highly hydrophobic sequences, which indicates sequences adequately hydrophobic to be located in a lipid membrane such as a cellular membrane. The posttranslational modification sites can be phosphorylation or glycosylation sites.
  - [126] The methods can further comprise performing a BLAST-type or a FAST-type analyses for the candidate polypeptide sequence. Exemplary BLAST-type and FAST-type analyses are described above, including BLAST, BLASTP, BLASTX, FASTA, and FASTX.

## D. GENERAL DISCUSSION OF ANTIGENIC PEPTIDES RELATED TO PARTICULAR GPCRS

## [127] ANTIGENIC PEPTIDES GENERALLY:

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30 [128] The present invention includes antigenic peptides able to induce specific immunogenic responses, and corresponding binding partners. Such antigenic peptides and

binding partners can be cloned, expressed, isolated, purified, and otherwise obtained or manipulated according to routine methods known in the art in view of the present application. The present invention further relates to antigenic peptides having an amino acid [129] sequence from a particular GPCR, including analogs, mimetics, fragments, derivatives, and the like of such antigenic peptides. See SEQ ID NOS. 1-2292, Figures 1-3. The antigenic peptides may be recombinant, natural or synthetic. The antigenic peptides include (i) antigenic peptides in which one or more of the amino acid residues are substituted with a conserved or non-conserved amino acid residue (preferably a conserved amino acid residue) and such substituted amino acid residue may or may not be one encoded by the genetic code, (ii) antigenic peptides in which one or more of the amino acid residues includes a substituent 10 group, (iii) antigenic peptides in which the mature polypeptide is complexed (e.g., fused or otherwise bonded) with another compound, such as a compound to increase the half-life of the polypeptide (for example, polyethylene glycol), and (iv) antigenic peptides in which additional amino acids are fused to the antigenic peptide. Preparing and using such analogs, etc., are within the scope of those skilled in the art in view of the present application. The 15 antigenic peptides additionally include antigenic peptides that have at least about 90% identity to the given antigenic peptide, and preferably at least about 95% identity to the antigenic peptide. The antigenic peptides additionally include antigenic peptides that contain at least five, six, seven or more consecutive amino acids that are identical to the given antigenic peptide, as well as antigenic peptides that contain at least six, seven, eight or more 20 consecutive amino acids that are identical to the given antigenic except for one or two conservative changes within this such stretch of amino acids. The antigenic peptides of the present invention can be produced by peptide synthesis.

## [130] EXPRESSION PROFILES BASED ON PROTEINS:

25 [131] An expression profile of a particular GPCR in one or more tissues can be made using antibodies or other binding partners produced using the antigenic peptides herein, then using traditional approaches such as Western blotting, immunohistochemistry analysis, protein array, ligand-binding studies, radioimmunoassay (RIA), and high performance liquid chromatography (HPLC), and immunohistochemistry analysis. H&E staining and other analyses can be used in combination with such immunologically-based analyses.

## [132] SCREENING FOR ACTIVITY:

[133] The activity or functionality of an antigenic peptide can be measured using any of a variety of assays known in the art. Similarly, the specificity or affinity of an antibody or other binding partner made using the antigenic peptide can be measured using any of a variety of assays known in the art

The activity or functionality of a particular GPCR may be measured using any of a variety of functional assays in which activation of the receptor in question results in an observable change in the level of some second messenger system, including but not limited to adenylyl cyclase, calcium mobilization, arachidonic acid release, ion channel activity, inositol phospholipid hydrolysis, or guanylyl cyclase. Heterologous expression systems utilizing appropriate host cells to express the nucleic acid of the subject invention are used to obtain the desired second messenger coupling. Receptor activity may also be assayed in an oocyte expression system.

## [135] PROTEIN PURIFICATION:

[136] The antigenic peptides and proteins or polypeptides containing them can be purified by standard methods, including but not limited to salt or alcohol precipitation, preparative disc-gel electrophoresis, isoelectric focusing, high pressure liquid chromatography (HPLC), reversed-phase HPLC, gel filtration, cation and anion exchange, partition chromatography, and countercurrent distribution. Suitable purification methods will be readily apparent to those skilled in the art in view of the present application and are disclosed, e.g., in Guide to Protein Purification, Methods in Enzymology, Vol. 182, M. Deutscher, Ed., Academic Press, New York, NY (1990). Purification steps can be followed as part of carrying out assays for ligand binding activity. Particularly where a particular GPCR is being isolated from a cellular or tissue source, it is preferable to include one or more inhibitors of proteolytic enzymes in the assay system, such as phenylmethylsulfonyl fluoride (PMSF).

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- E. CERTAIN ASSAYS, ANTIBODIES, PROBES, THERAPEUTICS, AND OTHER SYSTEMS AND ASPECTS. OF THE INVENTION
  - SYSTEMS AND METHODS FOR SCREENING FOR A PARTICULAR GPCR OR ANTIGENIC PEPTIDE

## 30 [137] SCREENING FOR ANTIGENIC PEPTIDES:

[138] As noted elsewhere herein, the present invention provides antigenic peptides and antibodies that are specific for a particular GPCR. The invention also provides systems and

methods for using or detecting such peptides, and antibodies against such peptides or corresponding GPCRs in a sample. The assays are based on the detection of the antigenic peptides, typically as they are displayed by the particular GPCR, or the detection of antibodies produced against the particular antigenic peptides and corresponding GPCRs.

## 5 [139] SCREENING FOR/WITH ANTIGENIC PEPTIDES:

[140] Many assays are characterized by the ability of antigenic peptides for a particular GPCR to be bound by antibodies against them, and the ability of antibodies produced against such antigenic peptides to bind to antigens or epitopes of the particular GPCR in a sample. Some exemplary assays are described below and elsewhere herein.

## 10 [141] LIST OF ASSAYS:

[142] A variety of assays can detect antibodies that bind specifically to the desired protein in or from a sample, or detect a desired protein bound to one or more antibodies in or from the sample. Exemplary assays are described in detail in Antibodies: A Laboratory Manual, Harlow and Lane (eds.), Cold Spring Harbor Laboratory Press (1988). Representative examples of such assays include: countercurrent immuno-electrophoresis (CIEP), radioimmunoassays, radioimmunoprecipitations, enzyme-linked immunosorbent assays (ELISA), dot blot assays, inhibition or competition assays, sandwich assays, immunostick (dip-stick) assays, simultaneous assays, immunochromatographic assays, immunofiltration assays, latex bead agglutination assays, immunofluorescent assays, biosensor assays, and low-light detection assays. See U.S. Pat. Nos. 4,376,110 and 4,486,530; WO 94/25597; WO/25598.

## [143] ENZYME-LINKED IMMUNOSORBENT ASSAYS (ELISA):

[144] One assay for the detection of a particular GPCR is a sandwich assay such as an enzyme-linked immunosorbent assay (ELISA). In one preferred embodiment, the ELISA comprises the following steps: (1) coating the particular GPCR antigenic peptide onto a solid phase, (2) incubating a sample suspected of containing anti-particular GPCR antibodies with the antigenic peptide coated onto the solid phase under conditions that allow the formation of an antigen-antibody complex, (3) adding an anti-antibody (such as anti-IgG) conjugated with a label to be captured by the resulting antigen-antibody complex bound to the solid phase, and (4) measuring the captured label and determining therefrom whether the sample contains anti-particular GPCR antibodies.

## [145] IMMUNOFLUORESCENCE ASSAY:

[146] A fluorescent antibody test (FA-test) uses a fluorescently labeled antibody able to bind to one of the proteins of the invention. For detection, visual determinations are made by a technician using fluorescence microscopy, yielding a qualitative result. In one embodiment, this assay is used for the examination of tissue samples or histological sections.

#### 5 [147] BEAD AGGLUTINATION ASSAYS:

[148] In latex bead agglutination assays, antibodies to one or more of the antigenic peptides of the present invention are conjugated to latex beads. The antibodies conjugated to the latex beads are then contacted with a sample under conditions permitting the antibodies to bind to desired proteins in the sample, if any. The results are then read visually, yielding a qualitative result. In some embodiments, as with certain other assays, this format can be used in the field for on-site testing.

#### [149] ENZYME IMMUNOASSAYS:

[150] Enzyme immunoassays (EIA) include a number of different assays that can use the antibodies described in the present application. For example, a heterogeneous indirect EIA uses a solid phase coupled with an antibody of the invention and an affinity purified, anti-IgG immunoglobulin preparation. The solid phase can be a polystyrene microtiter plate. The antibodies and immunoglobulin preparation are then contacted with the sample under conditions permitting antibody binding, which conditions are well known in the art. The results of such an assay can be read visually or using a device such as a spectrophotometer, such as an ELISA plate reader, to yield a quantitative result. An alternative solid phase EIA format includes plastic-coated ferrous metal beads able to be moved during the procedures of the assay by means of a magnet. Yet another alternative is a low-light detection immunoassay format. In this highly sensitive format, the light emission produced by appropriately labeled bound antibodies are quantified automatically. Preferably, the reaction is performed using microtiter plates.

[151] In an alternative embodiment, a radioactive tracer is substituted for the enzyme-mediated detection in an EIA to produce a radioimmunoassay (RIA).

#### [152] SANDWICH ASSAY:

[153] In a capture-antibody sandwich enzyme assay, the desired protein is bound between an antibody attached to a solid phase, preferably a polystyrene microtiter plate, and a labeled antibody. The results can be measured, for example, using a spectrophotometer, such as an ELISA plate reader.

## [154] SEQUENTIAL AND SIMULTANEOUS ASSAYS:

[155] In a sequential assay format, reagents are allowed to incubate with the capture antibody in a stepwise fashion. The test sample is first incubated with the capture antibody. Following a wash step, incubation with the labeled antibody occurs. In a simultaneous assay, the two incubation periods described in the sequential assay are combined. This eliminates one incubation period plus a wash step.

### [156] IMMUNOSTICK (DIP-STICK) ASSAYS:

[157] A dipstick/immunostick format is essentially an immunoassay using a polystyrene paddle or dipstick instead of a polystyrene microtiter plate as the solid phase. Reagents are the same and the format can either be simultaneous or sequential.

### [158] IMMUNOCHROMATOGRAPHIC ASSAYS:

[159] In a chromatographic strip test format, a capture antibody and a labeled antibody are dried onto a chromatographic strip, which typically comprises nitrocellulose or high porosity nylon bonded to cellulose acetate. The capture antibody is usually spray dried as a line at one end of the strip. At this end, there is an absorbent material that is in contact with the strip. At the other end of the strip, the labeled antibody is deposited in a manner that prevents it from being absorbed onto the membrane. Usually, the label attached to the antibody is a latex bead or colloidal gold. The assay may be initiated by applying the sample immediately in front of the labeled antibody.

## 20 [160] IMMUNOFILTRATION ASSAYS:

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[161] Immunofiltration/immunoconcentration formats combine a large solid-phase surface with directional flow of sample/reagents, which concentrates and accelerates the binding of antigen to antibody. In an exemplary format, the test sample is preincubated with a labeled antibody, and then applied to a solid phase such as fiber filters, nitrocellulose membranes, or the like. The solid phase can also be precoated with latex or glass beads coated with capture antibody. Detection of analyte is the same as that in a standard immunoassay. The flow of sample/reagents can be modulated by either vacuum or the wicking action of an underlying absorbent material.

#### [162] BIOSENSOR ASSAYS:

30 [163] A threshold biosensor assay is a sensitive, instrumented assay amenable to screening large numbers of samples at low cost. In one embodiment, such an assay comprises the use of light-addressable potentiometric sensors wherein the reaction involves

the detection of a pH change due to binding of the desired protein by capture antibodies, bridging antibodies, and urease-conjugated antibodies. Upon binding, a pH change is effected that is measurable by translation into electrical potential (µvolts). The assay typically occurs in a very small reaction volume, and is very sensitive; the reported detection limit of the assay is 1,000 molecules of urease per minute.

#### 2. ANTIBODIES

# [164] ANTIBODIES GENERATED AGAINST A PARTICULAR ANTIGENIC PEPTIDE AND ITS CORRESPONDING GPCR:

- 10 [165] Highly specific, high affinity or antibodies against a particular GPCR or other polypeptide can be generated using the antigenic peptides herein and using antibody generation techniques as described herein or elsewhere. The antibodies produced using the antigenic peptides of the present invention, for example, have a specificity for the corresponding GPCR such that the antibodies can selectively detect the corresponding GPCR in a sample containing non-desired or contaminating proteins or polypeptides, such as a tissue or blood sample. Preferably, the antibodies have a high specificity such that no significant amounts of such proteins or polypeptides are detected, and further preferably have a specificity such that only insubstantial to essentially zero amounts of non-desirable proteins are detected. The antibodies produced using the antigenic peptides of the present invention, for example, typically have an affinity or avidity constant (Ka) of at least about 10<sup>7</sup> liters/mole, typically a high affinity or avidity at least about 10<sup>9</sup> liters/mole, preferably at least about 10<sup>10</sup> liters/mole, and further preferably at least about 10<sup>11</sup> liters/mole.
  - [166] The antibodies can be used to conduct immunohistochemistry and other analyses of a variety of tissue samples to determine expression of a particular GPCR in such tissues, for diagnostic assays, and for other desired purposes. The specification will now discuss a variety of antibody types, methods, uses, etc.

#### [167] ANTIBODIES GENERALLY:

[168] In some embodiments, the present invention provides antibodies and other binding partners created using the antigenic peptides herein and directed to a particular GPCR from which the antigenic peptides were derived. Compositions and uses for such antibodies are contemplated, including diagnostic, medicament, and therapeutic uses. Various diagnostic, medicament, and therapeutic uses for antibodies have been reviewed above and, for example,

in Goldenberg et al., Semin. Cancer Biol., 1(3):217-225 (1990); Beck et al., Semin. Cancer Biol., 1(3):181-188 (1990); Niman, Immunol. Ser., 53:189-204 (1990); Endo, Nippon Igaku Hoshasen Gakkai Zasshi (Japan), 50(8):901-909 (1990); and, U.S. Pat. No. 6,214,984.

[169] Recognized immunoglobulin genes include the kappa, lambda, alpha, gamma, delta, epsilon, and mu constant region genes, as well as myriad immunoglobulin variable region genes. Light chains are classified as either kappa or lambda. Heavy chains are classified as gamma, mu, alpha, delta, or epsilon, which in turn define the immunoglobulin classes, IgG, IgM, IgA, IgD, and IgE, respectively. An exemplary immunoglobulin (antibody) structural unit comprises a tetramer. Each tetramer is composed of two identical pairs of antigenic peptide chains, each pair having one "light" chain (about 25 kD) and one "heavy" chain (about 50-70 kD). The N-terminus of each chain defines a variable region of about 100 to 110 or more amino acids primarily responsible for antigen recognition. The terms variable light chain (V<sub>L</sub>) and variable heavy chain (V<sub>H</sub>) refer to these light and heavy chains respectively.

### 15 [170] ANTI-IDIOTYPIC ANTIBODIES:

[171] The present invention encompasses anti-idiotypic antibodies, including polyclonal and monoclonal anti-idiotypic antibodies, that are produced using the antibodies described herein as antigens. These anti-idiotypic antibodies are useful because they may mimic the structures of the antigenic peptides set forth herein.

20 [172] Techniques for producing antibodies, including antibody fragments, include the following.

#### a. Antibody Preparation

(i) Polyclonal Antibodies

#### 25 [173] ANTIBODY PREP - POLYCLONAL:

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[174] Polyclonal antibodies are generally raised in animals by multiple subcutaneous (sc) or intraperitoneal (ip) injections of the relevant antigen and an adjuvant. It may be useful to conjugate the relevant antigen to a protein that is immunogenic in the species to be immunized, e.g., keyhole limpet hemocyanin, serum albumin, bovine thyroglobulin, or soybean trypsin inhibitor, using a bifunctional or derivatizing agent, for example, maleimidobenzoyl sulfosuccinimide ester (conjugation through cysteine residues), N-

hydroxysuccinimide (through lysine residues), glutaraldehyde, succinic anhydride, SOCl<sub>2</sub>, or R<sup>1</sup>N=C=NR, where R and R<sup>1</sup> are different alkyl groups.

## [175] ANTIBODY PREP – ADJUVANTS (ALL ABS):

Suitable adjuvants for the vaccination of animals for the production of polyclonal, [176] monoclonal, and other antibodies include but are not limited to Adjuvant 65 (containing peanut oil, mannide monooleate, and aluminum monostearate); Freund's complete or incomplete adjuvant; mineral gels such as aluminum hydroxide, aluminum phosphate, and surfactants such hexadecylamine, octadecylamine, lysolecithin, alum: dimethyldioctadecylammonium bromide, N,N-dioctadecyl-N',N'-bis(2-hydroxymethyl) propanediamine, methoxyhexadecylglycerol, and pluronic polyols; polyanions such as pyran, dextran sulfate, poly IC, polyacrylic acid, and carbopol; peptides such as muramyl dipeptide, dimethylglycine, tuftsin, stress proteins, core-containing proteins from a positive stranded RNA virus, see US Pat. No. 6,153,378; and, oil emulsions. The antigenic peptides could also be administered following incorporation into liposomes or other microcarriers.

15 [177] Information concerning adjuvants and various aspects of immunoassays are disclosed, e.g., in the series by P. Tijssen, Practice and Theory of Enzyme Immunoassays, 3rd Edition (1987), Elsevier, New York. Other useful references covering methods for preparing polyclonal antisera include Microbiology, Hoeber Medical Division, Harper and Row (1969); Landsteiner, Specificity of Serological Reactions, Dover Publications, New York (1962); and, Williams, et al., Methods in Immunology and Immunochemistry, Vol. 1, Academic Press, New York (1967).

[178] Animals can be immunized against the antigen, immunogenic conjugates, or derivatives by combining 1 mg or 1 µg of the peptide or conjugate (for rabbits or mice, respectively) with 3 volumes of Freund's complete adjuvant and injecting the solution intradermally at multiple sites. One month later the animals are boosted with 1/5 to 1/10 the original amount of peptide or conjugate in Freund's complete adjuvant by subcutaneous injection at multiple sites. Seven to 14 days later the animals are bled and the serum is assayed for antibody titer. Animals are boosted until the titer plateaus. Preferably, the animal is boosted with the conjugate of the same antigen, but conjugated to a different protein or through a different cross-linking reagent. Conjugates also can be made in recombinant cell culture as protein fusions. In addition, aggregating agents such as alum can be suitably used to enhance the immune response.

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#### (ii) Monoclonal Antibodies

#### [179] ANTIBODY PREP - MONOCLONAL:

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[180] Monoclonal antibodies are obtained from a population of substantially homogeneous antibodies, e.g., the individual antibodies comprising the population are identical except for possible naturally occurring mutations that may be present in minor amounts. For example, monoclonal antibodies can be made using the hybridoma method first described by Kohler and Milstein, Nature, 256:495 (1975), or can be made by recombinant DNA methods, or otherwise as desired.

10 [181] In the hybridoma method, a mouse, or other appropriate host animal, such as a hamster, is immunized as described herein to elicit lymphocytes that produce or are capable of producing antibodies that will bind specifically to the antigenic peptide used for immunization. Alternatively, lymphocytes may be immunized in vitro. Lymphocytes then are fused with myeloma cells using a suitable fusing agent, such as polyethylene glycol, to form a hybridoma cell, Goding, Monoclonal Antibodies: Principles and Practice, pp. 59-103, Academic Press (1986).

[182] The hybridoma cells thus prepared are seeded and grown in a suitable culture medium that preferably contains one or more substances that inhibit the growth or survival of the unfused, parental myeloma cells. For example, if the parental myeloma cells lack the enzyme hypoxanthine guanine phosphoribosyl transferase (HGPRT or HPRT), the culture medium for the hybridomas typically will include hypoxanthine, aminopterin, and thymidine (HAT medium), which substances prevent the growth of HGPRT-deficient cells.

Preferred myeloma cells are those that fuse efficiently, support stable high-level production of antibody by the selected antibody-producing cells, and are sensitive to a medium such as HAT medium, for example murine myeloma lines, such as those derived from MOPC-21 and MPC-11 mouse tumors available from the Salk Institute Cell Distribution Center, San Diego, CA USA, and SP-2 cells available from the American Type Culture Collection, Rockville, MD USA. Human myeloma and mouse-human heteromyeloma cell lines have also been described for the production of human monoclonal antibodies, Kozbor, J. Immunol., 133:3001 (1984); Brodeur et al., Monoclonal Antibody Production Techniques and Applications, pp. 51-63, Marcel Dekker, Inc., New York (1987).

Culture medium in which hybridoma cells are growing is assayed for production of [184] monoclonal antibodies directed against the antigenic peptide. The binding specificity of monoclonal antibodies produced by hybridoma cells can be determined by immunoprecipitation or by an in vitro binding assay, such as radioimmunoassay (RIA) or enzyme-linked immunosorbent assay (ELISA). The binding affinity of the monoclonal antibody can, for example, be determined by the Scatchard analysis of Munson and Pollard, Anal. Biochem., 107:220 (1980). The antibodies produced using the antigenic peptides of the present invention, for example, typically have an affinity or avidity constant (Ka) of at least about 10<sup>7</sup> liters/mole, typically a high affinity or avidity at least about 10<sup>9</sup> liters/mole, preferably at least about 10<sup>10</sup> liters/mole, and further preferably at least about 10<sup>11</sup> liters/mole. After hybridoma cells are identified that produce antibodies of the desired specificity, affinity, or activity, the clones may be subcloned by limiting dilution procedures and grown by standard methods (Goding, supra). Suitable culture media for this purpose include, for example, D-MEM or RPMI-1640 medium. In addition, the hybridoma cells may be grown in vivo as ascites tumors in an animal.

- [186] The monoclonal antibodies secreted by the subclones are suitably separated from the culture medium, ascites fluid, or serum by conventional immunoglobulin purification procedures such as, for example, protein A-SEPHAROSE<sup>TM</sup>, hydroxyapatite chromatography, gel electrophoresis, dialysis, or affinity chromatography.
- 20 [187] DNA encoding the monoclonal antibodies can be readily isolated and sequenced using conventional procedures (e.g., by using oligonucleotide probes that are capable of binding specifically to genes encoding the heavy and light chains of murine antibodies). The hybridoma cells serve as a preferred source of such DNA. Once isolated, the DNA may be placed into expression vectors, which can then be transfected into host cells such as E. coli cells, simian COS cells, Chinese hamster ovary (CHO) cells, or myeloma cells that do not otherwise produce immunoglobulin protein, to obtain the synthesis of monoclonal antibodies in the recombinant host cells. Review articles on recombinant expression in bacteria of DNA encoding antibody include Skerra et al., Curr. Opinion in Immunol., 5:256-262 (1993), and Pluckthun, Immunol. Revs., 130:151-188 (1992).

#### 30 [188] MOABS - COMBINATORIAL:

[189] In a further embodiment, antibodies or antibody fragments can be isolated from antibody phage libraries generated using the techniques described in McCafferty et al.,

Nature, 348:552-554 (1990), using the proper antigen such as CD11a, CD18, IgE, or HER-2 to select for a suitable antibody or antibody fragment. Clackson et al., Nature, 352:624-628 (1991) and Marks et al., J. Mol. Biol., 222:581-597 (1991) describe the isolation of murine and human antibodies, respectively, using phage libraries. Subsequent publications describe 5 the production of high affinity (nM range) human antibodies by chain shuffling, Marks et al., Biotechnology, 10:779-783 (1992), as well as combinatorial infection and in vivo recombination as strategies for constructing very large phage libraries, Waterhouse et al., Nuc. Acids. Res., 21:2265-2266 (1993). Combinatorial antibodies are also discussed in Huse et al., Science 246:1275-1281 (1989), and Sastry et al., Proc. Natl. Acad. Sci. USA, 86:5728-5732 (1989), and Alting-Mees et al., Strategies in Molecular Biology 3:1-9 (1990). These references describe a system commercially available from Stratacyte, La Jolla, CA USA. Briefly, mRNA is isolated from a B cell population and utilized to create heavy and light chain immunoglobulin cDNA expression libraries in the \(\lambda \text{IMMUNOZAP(H)}\) and AIMMUNOZAP(L) vectors. These vectors may be screened individually or co-expressed to form Fab fragments or antibodies, see Huse et al., supra, see also Sastry et al., supra. Positive plaques can subsequently be converted to a non-lytic plasmid, which allows for highlevel expression of monoclonal antibody fragments from E. coli.

#### [190] HUMANIZED MOAB:

[191] Binding partners can also be constructed utilizing recombinant DNA techniques to incorporate the variable regions of a gene that encode a specifically binding antibody. The construction of these binding partners can be readily accomplished by one of ordinary skill in the art in view of the present application. *See* Larrick et al., Biotechnology, 7:934-938 (1989); Riechmann et al., Nature, 332:323-327 (1988); Roberts et al., Nature, 328:731-734 (1987); Verhoeyen et al., Science 239:1534-1536 (1988); Chaudhary et al., Nature, 339:394-397 (1989); *see also* U.S. Pat. No. 5,132,405 entitled "Biosynthetic Antibody Binding Sites".) For example, the DNA can be modified by substituting the coding sequence for human heavy- and light-chain constant domains in place of homologous murine sequences, U.S. Pat. No. 4,816,567; Morrison, et al., Proc. Nat. Acad. Sci., 81:6851 (1984), or by covalently joining to the immunoglobulin coding sequence all or part of the coding sequence for a non-immunoglobulin polypeptide. In another example, DNA segments encoding the desired antigen-binding domains specific for the protein or peptide of interest are amplified from appropriate hybridomas and inserted directly into the genome of a cell that produces human

antibodies. See Verhoeyen et al., supra; see also Reichmann et al., supra. Some of these techniques transfer the antigen-binding site of a specifically binding mouse or rat monoclonal antibody or the like to a human antibody. Such antibodies can be preferable for therapeutic use in humans because they are typically not as antigenic as rat or mouse antibodies.

In an alternative embodiment, genes that encode the variable region from a hybridoma producing a monoclonal antibody of interest can be amplified using oligonucleotide primers for the variable region. These primers may be synthesized by one of ordinary skill in the art, or may be purchased from commercially available sources. For instance, primers for mouse and human variable regions including, among others, primers for VHa, VHb, VHc, VHd, CHl, VL, and CL regions are available from Stratacyte (La Jolla, CA). These primers may be utilized to amplify heavy- or light-chain variable regions, which may then be inserted into vectors such as IMMUNOZAP<sup>TM</sup>(H) or IMMUNOZAP<sup>TM</sup>(L) (Stratacyte), respectively. These vectors may then be introduced into *E. coli* for expression. Utilizing these techniques, large amounts of a single-chain protein containing a fusion of the VH and VL domains may be produced, see Bird et al., Science 242:423-426 (1988).

# [193] ANTIBODY SUBSTITUTIONS - NON-IMMUNOGLOBULIN POLYPEPTIDES (ALL ABS):

[194] Non-immunoglobulin polypeptides can be substituted in monoclonal and other antibodies described herein for the constant domains of an antibody, or they can be substituted for the variable domains of one antigen-combining site of an antibody to create a chimeric bivalent antibody comprising one antigen-combining site having specificity for an antigen and another antigen-combining site having specificity for a different antigen.

#### [195] CHIMERICS:

[196] Chimeric or hybrid antibodies can also be prepared *in vitro* using known methods in synthetic protein chemistry, including those involving crosslinking agents, in view of the present application. For example, immunotoxins may be constructed using a disulfide-exchange reaction or by forming a thioether bond. Examples of suitable reagents for this purpose include iminothiolate and methyl-4-mercaptobutyrimidate.

#### [197] ANTIBODY LABELING (ALL ABS):

[198] For diagnostic applications or otherwise as desired, and for monoclonal and other antibodies described herein, the antibodies and other binding partners typically will be labeled with a detectable moiety. The detectable moiety can be any moiety that is capable of

producing, either directly or indirectly, a detectable signal. For example, the detectable moiety may be a radioisotope, such as <sup>3</sup>H, <sup>14</sup>C, <sup>32</sup>P, <sup>35</sup>S, or <sup>125</sup>I; a fluorescent or chemiluminescent compound, such as fluorescein isothiocyanate, rhodamine, or luciferin; or an enzyme, such as alkaline phosphatase, beta-galactosidase, or horseradish peroxidase. Any method known in the art for conjugating the antibody or binding partner to the detectable moiety may be employed, including those methods described by Hunter et al., Nature, 144:945 (1962); David et al., Biochemistry, 13:1014 (1974); Pain et al., J. Immunol. Meth., 40:219 (1981); and Nygren, J. Histochem. Cytochem., 30:407 (1982).

## (iii) Humanized And Human Antibodies

#### [199] HUMANIZED AB GENERALLY:

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[200] Methods for humanizing non-human antibodies are well known in the art and have been discussed in part above. Generally, a humanized antibody has one or more amino acid residues introduced into it from a source which is non-human. These non-human amino acid residues are often referred to as "import" residues, which are typically taken from an "import" variable domain. Humanization can be performed essentially following the method of Winter and co-workers, Jones et al., Nature, 321:522-525 (1986); Riechmann et al., Nature, 332:323-327 (1988); Verhoeyen et al., Science, 239:1534-1536 (1988), by substituting rodent CDRs or CDR sequences for the corresponding sequences of a human antibody. Accordingly, such humanized antibodies are chimeric antibodies, U.S. Pat. No. 4,816,567, wherein substantially less than an intact human variable domain has been substituted by the corresponding sequence from a non-human species. In practice, humanized antibodies are typically human antibodies in which some CDR residues and possibly some FR residues are substituted by residues from analogous sites in rodent antibodies.

25 [201] The choice of human variable domains, both light and heavy, to be used in making humanized antibodies is very important to reduce antigenicity. According to the so-called "best-fit" method, the sequence of the variable domain of a rodent antibody is screened against the entire library of known human variable-domain sequences. The human sequence that is closest to that of the rodent is then accepted as the human framework (FR) for the humanized antibody. Sims et al., J. Immunol., 151:2296 (1993); Chothia and Lesk, J. Mol. Biol., 196:901 (1987). Another method uses a particular framework derived from the consensus sequence of all human antibodies of a particular subgroup of light or heavy chains.

The same framework may be used for several different humanized antibodies. Carter et al., Proc. Natl. Acad. Sci. USA, 89:4285 (1992); Presta et al., J. Immunol., 151:2623 (1993).

[202] It is typically desirable that antibodies be humanized with retention of high affinity for the antigen and other favorable biological properties. To achieve this goal, according to one method, humanized antibodies are prepared by a process of analysis of the parental sequences and various conceptual humanized products using three-dimensional models of the parental and humanized sequences. Three-dimensional immunoglobulin models are commonly available and are familiar to those skilled in the art. Computer programs are available that illustrate and display probable three-dimensional conformational structures of selected candidate immunoglobulin sequences. Inspection of these displays permits analysis of the likely role of the residues in the functioning of the candidate immunoglobulin sequence, e.g., the analysis of residues that influence the ability of the candidate immunoglobulin to bind antigen. In this way, FR residues can be selected and combined from the consensus and import sequences so that the desired antibody characteristic, such as increased affinity for the target antigen(s), is achieved. In general, CDR residues are directly and most substantially involved in influencing antigen binding.

[203] It is also possible to produce transgenic animals (e.g., mice) that are capable, upon immunization, of producing a full repertoire of human antibodies in the absence of endogenous immunoglobulin production. For example, it has been described that the homozygous deletion of the antibody heavy-chain joining region (J<sub>H</sub>) gene in chimeric and germ-line mutant mice results in complete inhibition of endogenous antibody production. Transfer of the human germ-line immunoglobulin gene array in such germ-line mutant mice will result in the production of human antibodies upon antigen challenge. See, e.g., Jakobovits et al., Proc. Natl. Acad. Sci. USA. 90:2551-255 (1993); Jakobovits et al., Nature, 362:255-258 (1993); Bruggemann et al., Year Immuno., 7:33 (1993). Human antibodies can also be produced in phage-display libraries, Hoogenboom and Winter, J. Mol. Biol., 227:381 (1991); Marks et al., J. Mol. Biol., 222:581 (1991).

#### (iv) Antibody Fragments

#### 30 [204] ANTIBODY FRAGMENTS:

[205] Various techniques have been developed for the production of antibody fragments. Such fragments can be derived via proteolytic digestion of intact antibodies, see, e.g.,

Morimoto et al., J. Biochem. Biophys. Meth. 24:107-117 (1992) and Brennan et al., Science, 229:81 (1985). Fragments can also be produced directly by recombinant host cells. For example, antibody fragments can be isolated from antibody phage libraries discussed above. Fab'-SH fragments can be directly recovered from *E. coli* and chemically coupled to form F(ab')<sub>2</sub> fragments, Carter et al., Biotechnology 10:163-167 (1992). F(ab')<sub>2</sub> fragments can be isolated directly from recombinant host cell culture. Other techniques for the production of antibody fragments will be apparent to the skilled practitioner.

### (v) Bispecific Antibodies

## 10 [206] BISPECIFIC ANTIBODIES GENERALLY:

[207] Bispecific antibodies (BsAbs) are antibodies that have binding specificities for at least two different antigens. Bispecific antibodies can be derived from full-length antibodies or from antibody fragments, e.g., F(ab')<sub>2</sub> bispecific antibodies.

[208] Methods for making bispecific antibodies are known in the art. Traditional production of full-length bispecific antibodies is based on the coexpression of two immunoglobulin heavy chain-light chain pairs, where the two chains have different specificities, Millstein and Cuello, Nature, 305:537-539 (1983). Because of the random assortment of immunoglobulin heavy and light chains, these hybridomas (quadromas) produce a mixture of potentially 10 different antibody molecules, of which only one has the correct bispecific structure. Purification of the correct molecule, which is usually accomplished by affinity chromatography steps, is rather cumbersome, and the product yields are low. Similar procedures are disclosed in WO 93/08829, and in Traunecker et al., E.M.B.O. J., 10:3655-3659 (1991).

[209] According to another approach, antibody variable domains containing the desired binding specificities (antibody-antigen combining sites) are fused to immunoglobulin constant domain sequences. The fusion is preferably with an immunoglobulin heavy chain constant domain, comprising at least part of the hinge, C<sub>H</sub> 2, and C<sub>H</sub> 3 regions. It is preferred to have the first heavy-chain constant region (C<sub>H</sub> 1) containing the site necessary for light chain binding, present in at least one of the fusions. DNAs encoding the immunoglobulin heavy chain fusions and, if desired, the immunoglobulin light chain, are inserted into separate expression vectors, and are co-transfected into a suitable host organism. This provides for great flexibility in adjusting the mutual proportions of the three polypeptide fragments in

embodiments when unequal ratios of the three polypeptide chains used in the construction provide the improved yields. It is, however, possible to insert the coding sequences for two or all three polypeptide chains in one expression vector when the expression of at least two polypeptide chains in equal ratios results in high yields or when the ratios are of no particular significance.

## [210] ANTIBODIES - HYBRID IMMUNOGLOBULIN HEAVY CHAIN:

[211] In one embodiment of this approach, the bispecific antibodies are composed of a hybrid immunoglobulin heavy chain with a first binding specificity in one arm, and a hybrid immunoglobulin heavy chain-light chain pair (providing a second binding specificity) in the other arm. This asymmetric structure may facilitate the separation of the desired bispecific compound from unwanted immunoglobulin chain combinations, as the presence of an immunoglobulin light chain in only one half of the bispecific molecule provides for a facile method of separation. This approach is discussed in WO 94/04690. For further details of generating bispecific antibodies see, for example, Suresh et al., Meth. Enzymol., 121:210 (1986).

#### [212] ANTIBODIES - CROSS-LINKED OR "HETEROCONJUGATE":

[213] Bispecific antibodies include cross-linked or "heteroconjugate" antibodies. For example, one of the antibodies in the heteroconjugate can be coupled to avidin, the other to biotin. Such antibodies have, for example, been proposed to target immune system cells to unwanted cells, U.S. Pat. No. 4,676,980), and for treatment of HIV infection, WO 91/00360, WO 92/200373, and EP 03089). Heteroconjugate antibodies may be made using any convenient cross-linking methods. Suitable cross-linking agents are well known in the art, and are disclosed in U.S. Pat. No. 4,676,980, along with a number of cross-linking techniques.

#### 25 [214] ANTIBODIES - DIABODIES:

[215] The "diabody" technology described by Hollinger et al., Proc. Natl. Acad. Sci. USA, 90:6444-6448 (1993) has provided an alternative mechanism for making BsAb fragments. The fragments comprise a heavy-chain variable domain (V<sub>H</sub>) connected to a light-chain variable domain (V<sub>L</sub>) by a linker that is too short to allow pairing between the two domains on the same chain. Accordingly, the V<sub>H</sub> and V<sub>L</sub> domains of one fragment are forced to pair with the complementary V<sub>L</sub> and V<sub>H</sub> domains of another fragment, thereby forming two antigen-binding sites.

Another strategy for making BsAb fragments by the use of single-chain Fv (sFv) [216] dimers has also been reported. See Gruber et al., J. Immunol., 152:5368 (1994). These researchers designed an antibody comprising the V<sub>H</sub> and V<sub>L</sub> domains of a first antibody joined by a 25-amino-acid-residue linker to the  $V_{\rm H}$  and  $V_{\rm L}$  domains of a second antibody. The refolded molecule bound to fluorescein and the T-cell receptor and redirected the lysis of human tumor cells that had fluorescein covalently linked to their surface.

#### **ANTIBODIES - OTHER:** [217]

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- Techniques for generating bispecific antibodies from antibody fragments have also [218] been described in the literature. For example, bispecific antibodies can be prepared using chemical linkage. Brennan et al., Science, 229:81 (1985) describe a procedure wherein intact antibodies are proteolytically cleaved to generate F(ab')2 fragments. These fragments are reduced in the presence of the dithiol complexing agent sodium arsenite to stabilize vicinal dithiols and prevent intermolecular disulfide formation. The Fab' fragments generated are then converted to thionitrobenzoate (TNB) derivatives. One of the Fab'-TNB derivatives is then reconverted to the Fab'-thiol by reduction with mercaptoethylamine and is mixed with an equimolar amount of the other Fab'-TNB derivative to form the BsAb. The BsAbs produced can be used as agents for the selective immobilization of enzymes.
- [219] Fab'-SH fragments can be directly recovered from E. coli, which can be chemically coupled to form bispecific antibodies. Shalaby et al., J. Exp. Med., 175:217-225 (1992) describe the production of a fully humanized BsAb F(ab')2 molecule. Each Fab' fragment was separately secreted from E. coli and subjected to directed chemical coupling in vitro to form the BsAb. The BsAb thus formed was able to bind to cells overexpressing the HER2 receptor and normal human T cells, as well as trigger the lytic activity of human cytotoxic lymphocytes against human breast tumor targets. See also Rodriguez et al., Int. J. Cancers 25 (Suppl.) 7:45-50 (1992).
  - Various techniques for making and isolating BsAb fragments directly from [220] recombinant cell culture have also been described. For example, bispecific F(ab')2 heterodimers have been produced using leucine zippers. Kostelny et al., J. Immunol., 148(5):1547-1553 (1992). The leucine zipper peptides from the Fos and Jun proteins are linked to the Fab' portions of two different antibodies by gene fusion. The antibody homodimers are reduced at the hinge region to form monomers and then re-oxidized to form the antibody heterodimers.

## b. Antibody Purification

## [221] ANTIBODY PURIFICATION GENERALLY:

[222] When using recombinant techniques, the antibody can be produced intracellularly, in the periplasmic space, or directly secreted into the medium. If the antibody is produced intracellularly, as a first step, the particulate debris, either host cells or lysed fragments, is removed, for example, by centrifugation or ultrafiltration. Carter et al., Bio/Technology 10:163-167 (1992), describe a procedure for isolating antibodies which are secreted to the periplasmic space of *E. coli*. Briefly, cell paste is thawed in the presence of sodium acetate (pH 3.5), EDTA, and phenylmethylsulfonylfluoride (PMSF) over about 30 min. Cell debris can be removed by centrifugation. Where the antibody is secreted into the medium, supernatants from such expression systems are generally first concentrated using a commercially available protein concentration filter, for example, an Amicon or Millipore Pellicon ultrafiltration unit. A protease inhibitor such as PMSF may be included in any of the foregoing steps to inhibit proteolysis and antibiotics may be included to prevent the growth of adventitious contaminants.

#### [223] BEFORE LPHIC:

The antibody composition prepared from the cells is preferably subjected to at least [224] one purification step prior to LPHIC. Examples of suitable purification steps include hydroxyapatite chromatography, gel electrophoresis, dialysis, and affinity chromatography. The suitability of protein A as an affinity ligand depends on the species and isotype of any immunoglobulin Fc domain that is present in the antibody. Protein A can be used to purify antibodies that are based on human y1, y2, or y4 heavy chains, Lindmark et al., J. Immunol. Meth. 62:1-13 (1983). Protein G has been recommended for mouse isotypes and for human y3, Guss et al., E.M.B.O. J., 5:1567-1575 (1986). The matrix to which the affinity ligand is attached is often agarose, but other matrices are available. Mechanically stable matrices such as controlled pore glass or poly(styrenedivinyl)benzene allow for faster flow rates and shorter processing times than can be achieved with agarose. Where the antibody comprises a CH 3 domain, the Bakerbond ABX<sup>TM</sup> resin (J. T. Baker, Phillipsburg, N.J.) is useful for purification. Other techniques for protein purification such as fractionation on an ionexchange column, ethanol precipitation, Reverse Phase HPLC, chromatography on silica, chromatography on heparin SEPHAROSETM, chromatography on an anion or cation

exchange resin (such as a polyaspartic acid column), chromatofocusing, SDS-PAGE, and ammonium sulfate precipitation are also available depending on the antibody to be recovered.

## [225] LPHIC:

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[226] Following any preliminary purification step(s), the mixture comprising the antibody of interest and contaminant(s) can be subjected to LPHIC. See US Patent No. 6,214,984. Often, the antibody composition to be purified will be present in a buffer from the previous purification step. However, it may be necessary to add a buffer to the antibody composition prior to the LPHIC step. Many buffers are available and can be selected by routine experimentation. The pH of the mixture comprising the antibody to be purified and at least one contaminant in a loading buffer is adjusted to a pH of about 2.5-4.5 using either an acid or base, depending on the starting pH. The loading buffer can have a low salt concentration (e.g., less than about 0.25 M salt).

The mixture is loaded on the HIC column. HIC columns normally comprise a base matrix (e.g., cross-linked agarose or synthetic copolymer material) to which hydrophobic ligands (e.g., alkyl or aryl groups) are coupled. One example of an HIC column comprises an agarose resin substituted with phenyl groups (e.g., a Phenyl SEPHAROSE<sup>TM</sup> column). Many HIC columns are available commercially. Examples include, but are not limited to, Phenyl SEPHAROSE 6 FAST FLOW<sup>TM</sup> column with low or high substitution (Pharmacia LKB Biotechnology, AB, Sweden); Phenyl SEPHAROSE<sup>TM</sup> High Performance column (Pharmacia LKB Biotechnology, AB, Sweden); Octyl SEPHAROSE<sup>TM</sup> High Performance column (Pharmacia LKB Biotechnology, AB, Sweden); FRACTOGEL<sup>TM</sup> EMD Propyl or FRACTOGEL<sup>TM</sup> EMD Phenyl columns (E. Merck, Germany); MACRO-PREP<sup>TM</sup> Methyl or MACRO-PREP<sup>TM</sup> t-Butyl Supports (Bio-Rad, California); WP HI-Propyl (C<sub>3</sub>)<sup>TM</sup> column (J. T. Baker, New Jersey); and TOYOPEARL<sup>TM</sup> ether, phenyl, or butyl columns (TosoHaas, PA).

[228] The antibody is typically eluted from the column using an elution buffer that is the same as the loading buffer. The elution buffer can be selected using routine experimentation in view of the present application. The pH of the elution buffer may be between about 2.5-4.5 and have a low salt concentration (e.g., less than about 0.25 M salt). It may not be necessary to use a salt gradient to elute the antibody of interest; the desired product may be recovered in the flow-through fraction that does not bind significantly to the column.

[229] The LPHIC step provides a way to remove a correctly folded and disulfide bonded antibody from unwanted contaminants (e.g., incorrectly associated light and heavy fragments). The method can provide an approach to substantially remove an impurity characterized as a correctly folded antibody fragment whose light and heavy chains fail to associate through disulfide bonding. Antibody compositions prepared using LPHIC can be up to about 95% pure or more. Purities of more than about 98% have been reported. US Patent No. 6,214,984.

#### [230] POST LPHIC:

[231] Antibody compositions prepared by LPHIC can be further purified as desired using techniques which are well known in the art. Diagnostic or therapeutic formulations of the purified protein can be made by providing the antibody composition in a physiologically acceptable carrier, examples of which are provided below. To remove contaminants (e.g., unfolded antibody and incorrectly associated light and heavy fragments) from the HIC column so that it can be re-used, a composition including urea (e.g., 6.0 M urea, 1% MES buffer pH 6.0, 4 mM ammonium sulfate) can be flowed through the column.

#### c. Some Uses For Antibodies Described Herein

#### (i) Generally

#### [232] GENERALLY:

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20 [233] The present invention comprises any suitable use for the antibodies and other binding partners discussed herein. The following provides some of the desired uses, including diagnostic and therapeutic uses. Various diagnostic and therapeutic uses for antibodies have been reviewed in Goldenberg et al., Semin. Cancer Biol., 1(3):217-225 (1990); Beck et al., Semin. Cancer Biol., 1(3):181-188 (1990); Niman, Immunol. Ser. 53:189-204 (1990); and, Endo, Nippon Igaku Hoshasen Gakkai Zasshi (Japan) 50(8):901-909 (1990), for example.

#### [234] ASSAYS:

[235] The antibodies can be used in immunoassays, such as enzyme immunoassays. BsAbs can be useful for this type of assay; one arm of the BsAb can be designed to bind to a specific epitope on the enzyme so that binding does not cause enzyme inhibition, the other arm of the antibody can be designed to bind to an immobilizing matrix ensuring a high enzyme density at the desired site. Examples of such diagnostic BsAbs include those having

specificity for IgG as well as ferritin, and those having binding specificities for horseradish peroxidase (HRP) as well as a hormone, for example. Monoclonal and polyclonal antibodies are also exemplary antibodies for immunoassays.

[236] The antibodies can be designed for use in two-site immunoassays. For example, two antibodies are produced binding to two separate epitopes on the analyte protein; one antibody binds the complex to an insoluble matrix, the other binds an indicator enzyme.

#### [237] DIAGNOSTIC USES:

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Antibodies can also be used for immunodiagnosis, in vitro or in vivo or otherwise, [238] of various diseases or conditions based on the presence or absence of a particular GPCR. Such diseases and conditions include, e.g., immune-related diseases, cell growth-related diseases, cell regeneration-related diseases, immunological-related cell proliferative diseases, and autoimmune diseases. Examples of specific diseases include AIDS, allergies, Alzheimer's disease, amyotrophic lateral sclerosis, atherosclerosis, bacterial, fungal, protozoan and viral infections, benign prostatic hypertrophy, bone diseases (e.g., osteoarthritis, osteoporosis), carcinoma (e.g., basal cell carcinoma, breast carcinoma, embryonal carcinoma, ovarian carcinoma, renal cell carcinoma, lung adenocarcinoma, lung small cell carcinoma, pancreatic carcinoma, prostate carcinoma, transitional carcinoma of the bladder, squamous cell carcinoma, thyroid carcinoma), cardiomyopathy, chronic and acute inflammation, circadian rhythm disorders, COPD, Crohn's disease, diabetes, Duchenne muscular dystrophy, embryonal carcinoma, endotoxic shock, environmental stress (e.g., by heat, UV or chemicals), gastrointestinal disorders, glioblastoma multiform, graft vs. host disease, Hodgkin's disease, inflammatory bowel disease, ischemia, stroke, lymphoma, macular degeneration, malignant cytokine production, malignant fibrous histiocytoma, melanoma, meningioma, mesothelioma, multiple sclerosis, nasal congestion, pain, Parkinson's disease, prostate carcinoma, psoriasis, rhabdomyosarcoma, psychotic or neurological disorders (e.g., anxiety, depression, schizophrenia, dementia, mental retardation, memory loss, epilepsy, locomotor problems, respiratory disorders, asthma, eating/body weight disorders including obesity, bulimia, diabetes, anorexia, nausea, hypertension, hypotension), renal disorders, reperfusion injury, rheumatoid arthritis, sarcoma (e.g., chondrosarcoma, Ewing's sarcoma. osteosarcoma). septicemia seminoma. sexual/reproductive disorders, tonsil, transitional carcinoma of the bladder, transplant rejection, trauma, tuberculosis, ulcers, ulcerative colitis, urinary retention, vascular and

cardiovascular disorders, or any other disease or disorder in which G protein-coupled receptors are involved, as well as learning and/or memory disorders, diabetes, pain perception disorders, anorexia, obesity, hormonal release problems, or any other disease or disorder in which a specific GPCR is involved.

To facilitate this diagnostic use, an antibody that binds a particular GPCR, when such is differentially expressed in tumors or other target diseases, can be conjugated with a detectable marker (e.g., a chelator that binds a radionuclide). Examples of tumor-associated antigens being used in a similar fashion include an antibody having specificity for the tumor-associated antigen CEA used for imaging colorectal and thyroid carcinomas and the anti-p185<sup>HER2</sup> antibody used for detecting cancers characterized by amplification of the HER2 protooncogene. Other uses for the antibodies of the present invention will be apparent to the skilled practitioner in view of the present application.

#### (ii) Assays

#### 15 [240] ASSAYS:

[241] For certain applications such as some diagnostic and other assay applications, the antibody typically can be labeled directly or indirectly with a detectable moiety. The detectable moiety can be any moiety that is capable of producing, either directly or indirectly, a detectable signal. For example, the detectable moiety may be a radioisotope, such as <sup>3</sup>H, <sup>14</sup>C, <sup>32</sup>P, <sup>35</sup>S, or <sup>125</sup>I; a fluorescent or chemiluminescent compound, such as fluorescein isothiocyanate, rhodamine, or luciferin; or an enzyme, such as alkaline phosphatase, beta-galactosidase, or HRP.

[242] Any method known in the art for separately conjugating the antibody to the detectable moiety may be employed, including those methods described by Hunter et al., Nature, 144:945 (1962); David et al., Biochemistry, 13:1014 (1974); Pain et al., J. Immunol. Meth. 40:219 (1981); and, Nygren, J. Histochem. and Cytochem. 30:407 (1982).

[243] The antibodies of the present invention may be employed in any desired assay method, such as competitive binding assays, direct, and indirect sandwich assays, and immunoprecipitation assays. Zola, Monoclonal Antibodies: A Manual of Techniques, pp. 147-158 (CRC Press, Inc. (1987).

#### [244] COMPETITIVE BINDING ASSAYS:

[245] Competitive binding assays rely on the ability of a labeled standard to compete with the test sample analyte for binding with a limited amount of antibody. The amount of analyte in the test sample is inversely proportional to the amount of standard that becomes bound to the antibody. To facilitate determining the amount of standard that becomes bound, the antibody generally is insolubilized before or after the competition, so that the standard, and analyte that are bound to the antibody may conveniently be separated from the standard, and analyte which remain unbound.

[246] BsAbs are particularly useful for sandwich assays which involve the use of two molecules, each capable of binding to a different immunogenic portion, or epitope, of the sample to be detected. In a sandwich assay, the test sample analyte is bound by a first arm of the antibody which is immobilized on a solid support, and thereafter a second arm of the antibody binds to the analyte, thus forming an insoluble three part complex. See, e.g., U.S. Pat. No. 4,376,110. The second arm of the antibody may itself be labeled with a detectable moiety (direct sandwich assays) or may be measured using an anti-immunoglobulin antibody that is labeled with a detectable moiety (indirect sandwich assay). For example, one type of sandwich assay is an ELISA assay, in which case the detectable moiety is an enzyme. Assays are discussed further elsewhere herein in relation to binding partners such as antibodies, and antigenic peptides for particular GPCRs, including assays searching for or using such antigenic peptides, and would be apparent to those skilled in the art in view of the present application.

#### (iii) Affinity Purification

## [247] AFFINITY PURIFICATION:

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[248] The antibodies also are useful for the affinity purification of an antigen of interest such as a particular GPCR from sources such as recombinant cell culture or natural sources.

#### (iv) Therapeutics

#### [249] THERAPEUTIC USES:

[250] Therapeutic compositions, and uses, etc., for the antibodies described herein will now be discussed. As with other parts of this application, this section does not contain the entire discussion of therapeutic uses or compositions, etc., for antibodies; other sections discuss both antibodies, and therapeutics, and the discussion in this section applies to certain

other aspects discussed herein. Turning to antibodies and therapeutics, the antibodies can be used, for example, for redirected cytotoxicity (e.g., to kill tumor cells), as a vaccine adjuvant, for delivering thrombolytic agents to clots, for delivering immunotoxins to tumor cells, for converting enzyme activated prodrugs at a target site (e.g., a tumor), for treating infectious diseases or targeting immune complexes to cell surface receptors.

#### [251] THERAPEUTIC FORMULATIONS:

[252] Therapeutic formulations of the antibody can be prepared for storage by mixing the antibody having the desired degree of purity with optional physiologically acceptable carriers, excipients, or stabilizers (Remington's Pharmaceutical Sciences, 16th edition, Osol, A., Ed. (1980), for example in the form of lyophilized cake or aqueous solutions. Acceptable carriers, excipients, or stabilizers are nontoxic to recipients at the dosages, and concentrations employed, and include buffers such as phosphate, citrate, and other organic acids; antioxidants including ascorbic acid; low molecular weight (less than about 10 residues) polypeptides; proteins, such as serum albumin, gelatin, or immunoglobulins; hydrophilic polymers such as polyvinylpyrrolidone; amino acids such as glycine, glutamine, asparagine, arginine, or lysine; monosaccharides, disaccharides, and other carbohydrates including glucose, mannose, or dextrins; chelating agents such as EDTA; sugar alcohols such as mannitol or sorbitol; salt-forming counterions such as sodium; or nonionic surfactants such as Tween, Pluronics, or polyethylene glycol (PEG).

The antibodies also may be entrapped in microcapsules prepared, for example, by 20 [253] techniques interfacial polymerization (for example, coacervation by hydroxymethylcellulose or gelatin-microcapsules, and poly-[methylmethacrylate] microcapsules, respectively), in colloidal drug delivery systems (for example, liposomes, albumin microspheres, microemulsions, nano-particles, and nanocapsules), or in macroemulsions. Such techniques are disclosed in Remington's Pharmaceutical Sciences, supra.

#### [254] THERAPEUTIC FORMULATIONS -STERILE:

[255] An antibody to be used for *in vivo* human administration should be sterile. This can be accomplished by filtration through sterile filtration membranes, for example prior to or following lyophilization and reconstitution. The antibody ordinarily will be stored in lyophilized form or in solution. Therapeutic antibody compositions generally are placed into

a container having a sterile access port, for example, an intravenous solution bag or vial having a stopper pierceable by a hypodermic injection needle.

#### [256] THERAPEUTIC ADMINISTRATIONS:

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- [257] The route of antibody administration is in accord with known methods, e.g., injection or infusion by intravenous, intraperitoneal, intracerebral, intramuscular, intraocular, intraarterial, or intralesional routes, or by sustained release systems as noted below.
- [258] The antibody can be administered, for example, continuously by infusion or by bolus injection. Suitable examples of sustained-release preparations include semipermeable matrices of solid hydrophobic polymers containing the protein, which matrices are in the form of shaped articles, e.g., films, or microcapsules. Examples of sustained-release matrices include polyesters, hydrogels (e.g., poly(2-hydroxyethyl-methacrylate) as described by Langer et al., J. Biomed. Mater. Res., 15:167-277 (1981), and Langer, Chem. Tech., 12:98-105 (1982), or poly(vinylalcohol)), polylactides, U.S. Pat. No. 3,773,919; EP 58,481, copolymers of L-glutamic acid and gamma ethyl-L-glutamate, Sidman et al., Biopolymers, 22:547-556 (1983), non-degradable ethylene-vinyl acetate, Langer et al., supra, degradable lactic acid-glycolic acid copolymers such as the LUPRON DEPOT<sup>TM</sup> (injectable microspheres composed of lactic acid-glycolic acid copolymer and leuprolide acetate), and poly-D-(-)-3-hydroxybutyric acid, EP 133,988.

## [259] THERAPEUTIC ADMINISTRATIONS – SUSTAINED RELEASE-POLYMERS:

- [260] While polymers such as ethylene-vinyl acetate and lactic acid-glycolic acid sustain release of molecules for over 100 days, certain hydrogels release proteins for shorter time periods. When encapsulated antibodies remain in the body for a long time, they may denature or aggregate as a result of exposure to moisture at 37°C, resulting in a loss of biological activity and possible changes in immunogenicity. Rational strategies can be devised for antibody stabilization depending on the mechanism involved. For example, if the aggregation mechanism is discovered to be intermolecular S--S bond formation through thio-disulfide interchange, stabilization may be achieved by modifying sulfhydryl residues, lyophilizing from acidic solutions, controlling moisture content, using appropriate additives, and developing specific polymer matrix compositions.
- [261] THERAPEUTIC ADMINISTRATIONS SUSTAINED RELEASE-LIPOSOMES:

Sustained-release antibody compositions also include liposomally entrapped [262] antibody. Liposomes containing the antibody can be prepared by methods such as those in DE 3,218,121; Epstein et al., Proc. Natl. Acad. Sci. USA, 82:3688-3692 (1985); Hwang et al., Proc. Natl. Acad. Sci. USA, 77:4030-4034 (1980); EP 52,322; EP 36,676; EP 88,046; EP 5 143,949; EP 142,641; Japanese patent application 83-118008; U.S. Pat. Nos. 4,485,045 and 4,544,545; and EP 102,324. Ordinarily the liposomes are of the small (about 200-800 Angstroms) unilamellar type in which the lipid content is greater than about 30 mol. % cholesterol, the selected proportion being adjusted for the optimal antibody therapy.

#### THERAPEUTICALLY EFFECTIVE AMOUNT: [263]

An effective amount of antibody to be employed therapeutically will depend, for [264] example, upon the therapeutic objectives, the route of administration, and the condition of the patient. Accordingly, it will be necessary for the therapist to titer the dosage and modify the route of administration as required to obtain the optimal therapeutic effect. A typical daily dosage might range from about 1 µg/kg to up to 10 mg/kg or more, depending on the factors 15 mentioned above. Typically, the clinician will administer antibody until a dosage is reached that achieves the desired effect. The progress of this therapy is easily monitored by conventional assays.

#### DRUG DESIGN BASED ON THE ANTIGENS HEREIN OR 5. **ANTIBODIES THERETO**

#### **DISEASE/CONDITIONS LIST:** [265]

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[266] The peptides and antibodies of the present invention can serve as valuable tools for designing drugs for treating various pathophysiological conditions such as immune-related diseases, cell growth-related diseases, cell regeneration-related diseases, immunologicalrelated cell proliferative diseases, and autoimmune diseases. Examples of specific diseases include AIDS, allergies, Alzheimer's disease, amyotrophic lateral sclerosis, atherosclerosis, bacterial, fungal, protozoan and viral infections, benign prostatic hypertrophy, bone diseases (e.g., osteoarthritis, osteoporosis), carcinoma (e.g., basal cell carcinoma, breast carcinoma, embryonal carcinoma, ovarian carcinoma, renal cell carcinoma, lung adenocarcinoma, lung small cell carcinoma, pancreatic carcinoma, prostate carcinoma, transitional carcinoma of the bladder, squamous cell carcinoma, thyroid carcinoma), cardiomyopathy, chronic and acute inflammation, circadian rhythm disorders, COPD, Crohn's disease, diabetes, Duchenne

muscular dystrophy, embryonal carcinoma, endotoxic shock, environmental stress (e.g., by heat, UV or chemicals), gastrointestinal disorders, glioblastoma multiform, graft vs. host disease. Hodgkin's disease, inflammatory bowel disease, ischemia, stroke, lymphoma, macular degeneration, malignant cytokine production, malignant fibrous histiocytoma, melanoma, meningioma, mesothelioma, multiple sclerosis, nasal congestion, pain, Parkinson's disease, prostate carcinoma, psoriasis, rhabdomyosarcoma, psychotic or neurological disorders (e.g., anxiety, depression, schizophrenia, dementia, mental retardation, memory loss, epilepsy, locomotor problems, respiratory disorders, asthma, eating/body weight disorders including obesity, bulimia, diabetes, anorexia, nausea, hypertension, hypotension), renal disorders, reperfusion injury, rheumatoid arthritis, sarcoma (e.g., septicemia. seminoma. chondrosarcoma, Ewing's sarcoma, osteosarcoma), sexual/reproductive disorders, tonsil, transitional carcinoma of the bladder, transplant rejection, trauma, tuberculosis, ulcers, ulcerative colitis, urinary retention, vascular and cardiovascular disorders, or any other disease or disorder in which G protein-coupled receptors are involved, as well as learning and/or memory disorders, diabetes, pain perception disorders, anorexia, obesity, hormonal release problems, or any other disease or disorder in which a specific GPCR is involved or that would be readily apparent to those skilled in the art in view of the present application.

#### **EXAMPLES**

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20 [267] The Examples below provide information as follows: Example 1 relates to the identification and selection of the antigens set forth in Figure 2. Examples 2 to 4 relate to antibody production and purification based on such antigens. Examples 5 to 10 relate to H&E staining. And, Example 11 relates to Western blot analyses.

#### **EXAMPLE 1: SELECTION OF ANTIGENS**

[268] Antigenic peptides were derived from the amino acid sequence of a particular GPCR based on analyses of likely antigen-containing regions and specificity of those regions for the protein/gene of interest. The specificity of the antigen peptides (approximately 20 amino acids in length) for antibody generation was determined using the outlined techniques, including BLAST of several public databases. These public databases included but were not limited to GenBank, Swiss Prot Human, Swiss Prot NonHuman, GenPeptH, GenPept M, and

LifeSpan's proprietary databases. With respect to specificity, parameters that precluded the use of a particular peptide included the presence of 6 or more contiguous amino acids with sequence identity to protein(s) other than the protein of interest, the presence of sites of posttranslational modification, including phosphorylation and glycosylation, and highly hydrophobic sequences, which could indicate potential in situ localization within the plasma membrane. The peptides were analyzed for antigenicity using the published algorithm of Hopp, T. P., and Woods, K. R. Proc. Natl. Acad. Sci. U.S.A. 78, 3824-3828, (1981). Additional considerations in antigenic peptide design included 1) selection against sequences with multiple prolines in a row, 2) selection against sequences with multiple serines in a row, 3) selection against sequences with multiple lysines in a row, 4) selection against sequences with multiple arginines in a row 5) selection against sequences with multiple aspartic acids in a row, 6) selection against sequences with multiple glutamic acids in a row, 7) selection against peptides containing methionine or tryptophan, which can become oxidized as a result of the cyclization reaction, and 8) avoidance of stretches of 5 or more amino acids having no uncharged amino acids (which also resulted in a desirable charge to peptide length ratio of at least 1 charge:5 residues). The selected antigenic peptides are set forth in the Sequence Listing and in Figure 2.

### **EXAMPLE 2: ANTIBODY PRODUCTION SCHEDULE**

- 20 [269] Day 0 Pre-immune serum collection (approximately 5.0 ml). Immunize using 200 μg antigen peptide per rabbit in Complete Freund's Adjuvant.
  - [270] Day 14 Immunize using 100 µg antigen per rabbit in Incomplete Freund's Adjuvant.
  - [271] Day 28 Immunize using 100 µg antigen per rabbit in Incomplete Freund's Adjuvant.
    - [272] Day 42 Immunize using 100 µg antigen per rabbit in Incomplete Freund's Adjuvant.
    - [273] Day 49 First production bleed; obtain 24.0 26.0 ml.
- [274] Day 56 Immunize using 100 µg antigen per rabbit in Incomplete Freund's 30 Adjuvant.
  - [275] Day 63 Second production bleed and ELISA analysis.

[276] Day 70 - Immunize using 100 μg antigen per rabbit in Incomplete Freund's Adjuvant.

[277] Day 77 - Third production bleed and affinity purification.

# EXAMPLE 3: IMMUNOSORBENT PURIFICATION OF ANTISERUM: COUPLING OF PEPTIDE TO CNBR-ACTIVATED SEPHAROSE 4B

[278] Weigh out 0.8 g of CNBr-activated Sepharose 4B (2.5 ml of final gel volume). Wash and re-swell on sintered glass filter with 1 mM HCl, followed by coupling buffer (0.1 M NaHCO<sub>3</sub>, 0.25 M NaCl, pH 8.5). Dissolve 10 mg of protein or peptide in coupling buffer. Mix protein solution with gel suspension and incubate 2 hours at room temperature or overnight at 4°C. Block remaining active groups with 0.2 M glycine buffer, pH 8.1. Wash away excess adsorbed protein with coupling buffer, followed by 0.1 M acetate buffer containing 0.5 M NaCl, pH 4.3. Equilibrate the column with phosphate-buffered saline (PBS), pH 7.7.

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# EXAMPLE 4: IMMUNOSORBENT PURIFICATION OF ANTISERUM: AFFINITY PURIFICATION OF ANTISERUM

[279] Dilute 10 ml of clear antiserum 1:1 with PBS, pH 7.7, apply to affinity column at a flow rate of 0.3 ml/minute, and monitor absorbance of eluate at 280 nm. Collect fractions of unbound material and rinse column with PBS, pH 7.7. Elute bound antibody with 0.2 M glycine, pH 1.85, and collect eluate until absorbance at 280 nm returns to baseline. Neutralize all collected fractions with 1 M Tris-HCl, pH 8.5 immediately after collection. Determine OD at 280 nm, and determine the total OD recovered. Conduct ELISA analysis with the corresponding antigen to confirm the presence and identity of recovered antibody and the removal of all antibody from the original serum. Concentrate antibody to approximately 2.0 mg/ml and dialyze against PBS with 0.01% NaN<sub>3</sub>.

### **EXAMPLE 5: PREPARATION OF ANTIBODY DILUTIONS**

[280] The purpose of this protocol is to dilute antibodies in solution. Materials include Tris-HCL Buffer with carrier protein and 0.015 M NaN<sub>3</sub> (Dako Antibody Diluent #S0809 (DAKO, Carpentaria, CA); vials containing the antibodies described above or commercial antibodies against the particular GPCR; pipetmen and disposable tips; container of chopped ice; 12 ml Dako reagent tubes; and, reagent tube rack.

[281] The procedure is a) calculate proportions of antibody and diluent according to desired concentrations and volume requirements; b) label reagent tubes and place in rack; c) pipette needed volume of diluent into tube(s); d) place vials of antibodies into ice; e) invert and/or flick antibody vial(s) 3 or 4 times to insure suspension; f) pipette required volume of antibody(s) into corresponding diluent volumes; and, g) mix gently.

#### **EXAMPLE 6: PREPARATION OF AUTOSTAINER SOLUTIONS**

[282] The purpose of this protocol is the preparation of concentrated solutions for use in a DAKO autostainer. Materials include DAKO<sup>®</sup> TBST (Tris Buffered Saline Containing Tween-S3306), 10X Concentrate, DAKO<sup>®</sup> Target Retrieval Solution, 10x Concentrate (S1699), deionized H<sub>2</sub>O, 20L container, with lid, marked at the 10L level, DAKO<sup>®</sup> TBS (Tris Buffered Saline-S1968), and DAKO Tween<sup>®</sup> (S1966).

TBST into a 20 L container, b) add deionized H<sub>2</sub>O until solution level is at 10 L mark, c) replace lid and shake 10 to 20 times, d) pour diluted DAKO® TBST into autostainer carboy(s) as designated. The procedure to make Target Retrieval Solution is a) measure 135 ml of deionized H<sub>2</sub>O and pour into slide bath, b) measure 15 ml of DAKO® Target Retrieval solution, c) add to H<sub>2</sub>O, and d) agitate. This solution is then used in the steam method of target retrieval, Example 9, below. The procedure to make TBS is a) fill 20L container to 10L mark with deionized H<sub>2</sub>O, b) add 2 envelopes of DAKO® TBS, c) add 5 ml of DAKO TWEEN®, and d) replace lid and agitate 10 to 20 times.

## EXAMPLE 7: PREPARATION OF SOLUTIONS FOR ANTIBODY DETECTION

25 [284] Solutions for antibody detection are prepared using Vector<sup>®</sup> Biotinylated antibody (BA series), Vectastain<sup>®</sup> ABC-AP Kit (AK-5000), 10 mM sodium phosphate, pH 7.5, 0.9% saline (PBS), Vector<sup>®</sup> Red Alkaline Phosphatase Substrate Kit I (SK-5100), and 100 mM Tris-HCl, pH 8.2 Buffer. To prepare biotinylated antibody, add 10 ml of PBS to reagent tube, add 1 drop biotinylated antibody to the PBS, then mix gently. To prepare ABC, to 10 ml of PBS, add 2 drops each of Reagent A and Reagent B, mix immediately, then allow to stand 30 minutes before use. To prepare AP Red, which should be prepared immediately

before use, to 5 ml of Tris-HCl buffer, add 2 drops of Reagent 1 and mix well, add 2 drops of Reagent 2 and mix well, then add 2 drops of Reagent 3 and mix well.

# EXAMPLE 8: DEPARAFFINIZATION AND REHYDRATION OF SAMPLES

[285] The purpose of this protocol is to remove paraffin from and rehydrate preserved tissues in preparation for IHC procedures. Materials and equipment include fume hood, vertical slide rack(s), three xylene (VWR #72060-088) baths, three 100% alcohol blend (VWR #72060-050) baths, two 95% alcohol blend (VWR #72060-052) baths, one 70% alcohol blend (VWR #72060-056) bath, and Tris-Buffered Saline (DAKO® S1968) + Tween® (DAKO S1966).

[286] Insert the slides into the vertical rack(s). Move slides through baths inside fume hood as follows:

Xylene 5 Minutes
Xylene 5 Minutes
Xylene 5 Minutes
100% Alcohol 2 Minutes
100% Alcohol 2 Minutes
100% Alcohol 1 Minute
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95% Alcohol 2 Minutes
95% Alcohol 2 Minutes
70% Alcohol 1 Minute

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[287] Finally, place slides into a container with TBST.

#### **EXAMPLE 9: STEAM METHOD OF TARGET RETRIEVAL**

[288] The purpose of this protocol is to optimize antibody binding within paraffin embedded tissues. Materials and equipment included a steamer, deionized H<sub>2</sub>O, target retrieval solution, 10X concentrate (DAKO #S1699), 250 ml graduated cylinder, 15 ml graduated cylinder, staining dish(es), and deparaffinized and rehydrated tissue on microscope slides in immersed TBST. The procedure is to a) fill the steamer with deionized H<sub>2</sub>O to appropriate depth as indicated, b) turn the steamer on, c) in a graduated cylinder, measure 135ml of deionized H<sub>2</sub>O and pour into staining dish(es), d) pipette 15ml of target retrieval solution and release into deionized H<sub>2</sub>O, e) place the staining dish(es) into the basket of the steamer and heat for at least 10 minutes to preheat, f) add rack(s) containing tissue slides to heated target retrieval solution, g) cover and steam for 20 minutes, h) remove container from

steamer and let stand at room temperature for 20 minutes, i) transfer rack(s) with slides to container(s) of TBST, and j) slides are now ready for staining procedures.

#### **EXAMPLE 10: ANTIBODY DETECTION**

[289] The deparaffinized, rehydrated, and steamed (if needed) slides are loaded onto racks within a DAKO autostainer and then the autostainer is run according to the manufacturer's instructions. The slides are removed and the autostainer is turned off.

#### **EXAMPLE 11: WESTERN BLOTTING**

10 [290] The purpose of this protocol is to visualize the immunoreactivity of the antibodies described above against the particular GPCR on a western blot. Materials and equipment included western blot membrane, TBS Tween (TBST: 100 mM Tris-HCl pH 7.5, 150 mM NaCl, 0.1% Tween<sup>TM</sup> 20), 5% non-fat dried milk in TBST (blotto), antibody of interest (primary), peroxidase-conjugated AffiniPure goat anti-rabbit IgG (H+L) (secondary) – Jackson ImmunoResearch, ECL solution (Amersham Biosciences, Uppsala Sweden), film, developer D-19, fixer, rocking platform.

[291] During the blotting procedure, the blot is kept wet at all times and on a substantially level surface. The Western blot is placed right-side up in 10 ml of blotto. The membrane is flipped over and the dish rocked so that the solution covered it. The membrane is then flipped back to the right side and solution is again rocked over it. The blot is then placed on a shaker for at least 1 hour. Ten ml of primary antibody are prepared by diluting 1:500 in blotto.

[292] The blotto is removed from the Western blot and replaced with the primary antibody. The blot is flipped again and placed on the shaker for 1 hour. Secondary antibody and peroxidase-conjugated AffiniPure goat anti-rabbit IgG (H+L) are prepared 1:20,000 in 10 ml of blotto. The primary antibody is removed and the Western blot is washed 3 times with 10 ml of blotto. The blotto is removed and replaced with the secondary antibody solution. The blot is flipped and placed on the shaker for 1 hour. The secondary antibody is removed and the blot washed 2 times with 10 ml of blotto. The blotto is removed and the blot is washed 2 times with 10 ml of blotto. The blotto is removed and the blot is a prepared by combining equal amounts of Solution 1 and 2.

[293] The blotto is removed and 1 ml of ECL is placed on the blot. The blot is flipped and let sit for 1 minute. The blot is placed on plastic wrap and immediately covered with plastic wrap. The ECL is pressed out. The blot is placed on the film, then the film is developed.

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[294] From the foregoing, it will be appreciated that, although specific embodiments of the invention have been described herein for purposes of illustration, various modifications may be made without deviating from the spirit and scope of the invention. Accordingly, the invention includes all permutations and combinations of the subject matter set forth herein and is not limited except as by the appended claims.

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#### WHAT IS CLAIMED IS:

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 An isolated antigenic peptide according to any one of SEQ ID NOS. 692-2292.

- 5 2. An isolated antigenic peptide comprising an amino acid sequence that is at least about 90% identical to a sequence set forth in any one of SEQ ID NOS. 692-2292.
  - 3. An isolated antigenic peptide that is an analog of an antigenic peptide according to any one of SEQ ID NOS. 692-2292.
- 4. An isolated antigenic peptide comprising a short antigenic amino acid sequence that is identical to at least 5 consecutive amino acids set forth in any one of SEQ ID NOS. 692-2292.
  - 5. An isolated antigenic peptide comprising a short antigenic amino acid sequence that is identical to or contains no more than one conservative amino acid substitution over at least 7 consecutive amino acids set forth in any one of SEQ ID NOS. 692-2292.
  - 6. A kit for the detection of antibodies against a particular GPCR in a sample comprising:
  - a) an isolated antigenic peptide according to any one of claims 1-5 and derived from the particular GPCR, and
    - b) at least one of a reagent or a device for detecting the antibodies.
- 7. An isolated antibody having high specificity and high affinity or avidity for a particular GPCR comprising a peptide sequence that is identical to any one of SEQ ID NOS. 692-703, 713-730, 744-802, 807-820, 825-875, 880-889, 917-941, 950-964, 971-984, 989-993, 1010-1013, 1021-1024, 1029-1043, 1049-1052, 1057-1072, 1087-1113, 1124-1151, 1161-1172, 1179-1187, 1198-1209, 1228-1231, 1245-1257, 1271-1279, 1304-1308, 1369-1372, wherein the antibody was produced using an isolated antigenic peptide comprising the peptide sequence that is identical to the any one of SEQ ID NOS. 692-703, 713-730, 744-802, 807-820, 825-875, 880-889, 917-941, 950-964, 971-984, 989-993, 1010-1013, 1021-1024, 1029-1043, 1049-1052, 1057-1072, 1087-1113, 1124-1151, 1161-1172, 1179-1187, 30 · 1198-1209, 1228-1231, 1245-1257, 1271-1279, 1304-1308, 1369-1372.
  - 8. An isolated antibody having high specificity and high affinity or avidity for a particular GPCR comprising a peptide sequence that is at least about 90% identical to any

one of SEQ ID NOS. 692-703, 713-730, 744-802, 807-820, 825-875, 880-889, 917-941, 950-964, 971-984, 989-993, 1010-1013, 1021-1024, 1029-1043, 1049-1052, 1057-1072, 1087-1113, 1124-1151, 1161-1172, 1179-1187, 1198-1209, 1228-1231, 1245-1257, 1271-1279, 1304-1308, 1369-1372, wherein the antibody was produced using the peptide sequence that is at least about 90% identical to the any one of SEQ ID NOS. 692-703, 713-730, 744-802, 807-820, 825-875, 880-889, 917-941, 950-964, 971-984, 989-993, 1010-1013, 1021-1024, 1029-1043, 1049-1052, 1057-1072, 1087-1113, 1124-1151, 1161-1172, 1179-1187, 1198-1209, 1228-1231, 1245-1257, 1271-1279, 1304-1308, 1369-1372.

- 9. An isolated antibody having high specificity and high affinity or avidity for a particular GPCR comprising a peptide sequence that is an analog to any one of SEQ ID NOS. 692-703, 713-730, 744-802, 807-820, 825-875, 880-889, 917-941, 950-964, 971-984, 989-993, 1010-1013, 1021-1024, 1029-1043, 1049-1052, 1057-1072, 1087-1113, 1124-1151, 1161-1172, 1179-1187, 1198-1209, 1228-1231, 1245-1257, 1271-1279, 1304-1308, 1369-1372, wherein the antibody was produced using an isolated antigenic peptide comprising the peptide sequence that is the analog to the any one of SEQ ID NOS. 692-703, 713-730, 744-802, 807-820, 825-875, 880-889, 917-941, 950-964, 971-984, 989-993, 1010-1013, 1021-1024, 1029-1043, 1049-1052, 1057-1072, 1087-1113, 1124-1151, 1161-1172, 1179-1187, 1198-1209, 1228-1231, 1245-1257, 1271-1279, 1304-1308, 1369-1372.
  - 10. An isolated antibody having high specificity and high affinity or avidity for a particular GPCR comprising a peptide sequence that is identical to at least 5 consecutive amino acids set forth any one of SEQ ID NOS. 692-703, 713-730, 744-802, 807-820, 825-875, 880-889, 917-941, 950-964, 971-984, 989-993, 1010-1013, 1021-1024, 1029-1043, 1049-1052, 1057-1072, 1087-1113, 1124-1151, 1161-1172, 1179-1187, 1198-1209, 1228-1231, 1245-1257, 1271-1279, 1304-1308, 1369-1372, wherein the antibody was produced using a short isolated antigenic peptide comprising the at least 5 consecutive amino acids set forth in the any one of SEQ ID NOS. 692-703, 713-730, 744-802, 807-820, 825-875, 880-889, 917-941, 950-964, 971-984, 989-993, 1010-1013, 1021-1024, 1029-1043, 1049-1052, 1057-1072, 1087-1113, 1124-1151, 1161-1172, 1179-1187, 1198-1209, 1228-1231, 1245-1257, 1271-1279, 1304-1308, 1369-1372.
- An isolated antibody specific for a particular GPCR comprising a peptide sequence that is identical to any one of SEQ ID NOS. 704-712, 731-743, 774-777, 803-806, 821-824, 876-879, 890-916, 942-949, 965-970, 985-988, 994-1009, 1014-1020, 1025-1028,

1044-1048, 1053-1056, 1073-1086, 1114-1123, 1152-1160, 1173-1178, 1188-1197, 1210-1227, 1232-1244, 1258-1270, 1280-1303, 1309-1368, 1373-1377, 1386-1389, 1394-1402, 1462-1482, 1496-1525, 1542-1549, 1557-1563, 1583-1649, 1656-1679, 1684-1688, 1693-1732, 1744-1752, 1765-1839, 1846-1854, 1855-1866, 1871-1917, 1926-1941, 1952-1955, 1960-1980, 1985-2141, 2152-2165, and 2170-2292, wherein the antibody was produced using an isolated antigenic peptide comprising the peptide sequence that is identical to the any one of SEQ ID NOS. 704-712, 731-743, 774-777, 803-806, 821-824, 876-879, 890-916, 942-949, 965-970, 985-988, 994-1009, 1014-1020, 1025-1028, 1044-1048, 1053-1056, 1073-1086, 1114-1123, 1152-1160, 1173-1178, 1188-1197, 1210-1227, 1232-1244, 1258-1270, 1280-1303, 1309-1368, 1373-1377, 1386-1389, 1394-1402, 1462-1482, 1496-1525, 1542-1549, 1557-1563, 1583-1649, 1656-1679, 1684-1688, 1693-1732, 1744-1752, 1765-1839, 1846-1854, 1855-1866, 1871-1917, 1926-1941, 1952-1955, 1960-1980, 1985-2141, 2152-2165, and 2170-2292.

- An isolated antibody specific for a particular GPCR comprising a peptide 12. sequence that is at least about 90% identical to any one of SEQ ID NOS. 704-712, 731-743, 774-777, 803-806, 821-824, 876-879, 890-916, 942-949, 965-970, 985-988, 994-1009, 1014-1020, 1025-1028, 1044-1048, 1053-1056, 1073-1086, 1114-1123, 1152-1160, 1173-1178, 1188-1197, 1210-1227, 1232-1244, 1258-1270, 1280-1303, 1309-1368, 1373-1377, 1386-1389, 1394-1402, 1462-1482, 1496-1525, 1542-1549, 1557-1563, 1583-1649, 1656-1679, 1684-1688, 1693-1732, 1744-1752, 1765-1839, 1846-1854, 1855-1866, 1871-1917, 1926-20 1941, 1952-1955, 1960-1980, 1985-2141, 2152-2165, and 2170-2292, wherein the antibody was produced using the peptide sequence that is at least about 90% identical to the any one of SEQ ID NOS. 704-712, 731-743, 774-777, 803-806, 821-824, 876-879, 890-916, 942-949, 965-970, 985-988, 994-1009, 1014-1020, 1025-1028, 1044-1048, 1053-1056, 1073-1086, 25 1114-1123, 1152-1160, 1173-1178, 1188-1197, 1210-1227, 1232-1244, 1258-1270, 1280-1303, 1309-1368, 1373-1377, 1386-1389, 1394-1402, 1462-1482, 1496-1525, 1542-1549, 1557-1563, 1583-1649, 1656-1679, 1684-1688, 1693-1732, 1744-1752, 1765-1839, 1846-1854, 1855-1866, 1871-1917, 1926-1941, 1952-1955, 1960-1980, 1985-2141, 2152-2165, and 2170-2292.
- 30 13. An isolated antibody specific for a particular GPCR comprising a peptide sequence that is an analog to any one of SEQ ID NOS. 704-712, 731-743, 774-777, 803-806, 821-824, 876-879, 890-916, 942-949, 965-970, 985-988, 994-1009, 1014-1020, 1025-1028,

1044-1048, 1053-1056, 1073-1086, 1114-1123, 1152-1160, 1173-1178, 1188-1197, 1210-1227, 1232-1244, 1258-1270, 1280-1303, 1309-1368, 1373-1377, 1386-1389, 1394-1402, 1462-1482, 1496-1525, 1542-1549, 1557-1563, 1583-1649, 1656-1679, 1684-1688, 1693-1732, 1744-1752, 1765-1839, 1846-1854, 1855-1866, 1871-1917, 1926-1941, 1952-1955, 1960-1980, 1985-2141, 2152-2165, and 2170-2292, wherein the antibody was produced using an isolated antigenic peptide comprising the peptide sequence that is the analog to the any one of SEQ ID NOS. 704-712, 731-743, 774-777, 803-806, 821-824, 876-879, 890-916, 942-949, 965-970, 985-988, 994-1009, 1014-1020, 1025-1028, 1044-1048, 1053-1056, 1073-1086, 1114-1123, 1152-1160, 1173-1178, 1188-1197, 1210-1227, 1232-1244, 1258-1270, 1280-1303, 1309-1368, 1373-1377, 1386-1389, 1394-1402, 1462-1482, 1496-1525, 1542-1549, 1557-1563, 1583-1649, 1656-1679, 1684-1688, 1693-1732, 1744-1752, 1765-1839, 1846-1854, 1855-1866, 1871-1917, 1926-1941, 1952-1955, 1960-1980, 1985-2141, 2152-2165, and 2170-2292.

- An isolated antibody specific for a particular GPCR comprising a peptide 14. sequence that is identical to at least 5 consecutive amino acids set forth any one of SEQ ID NOS. 704-712. 731-743. 774-777. 803-806. 821-824. 876-879. 890-916. 942-949. 965-970. 985-988, 994-1009, 1014-1020, 1025-1028, 1044-1048, 1053-1056, 1073-1086, 1114-1123, 1152-1160, 1173-1178, 1188-1197, 1210-1227, 1232-1244, 1258-1270, 1280-1303, 1309-1368, 1373-1377, 1386-1389, 1394-1402, 1462-1482, 1496-1525, 1542-1549, 1557-1563, 1583-1649, 1656-1679, 1684-1688, 1693-1732, 1744-1752, 1765-1839, 1846-1854, 1855-1866, 1871-1917, 1926-1941, 1952-1955, 1960-1980, 1985-2141, 2152-2165, and 2170-2292, wherein the antibody was produced using a short isolated antigenic peptide comprising the at least 5 consecutive amino acids set forth in the any one of SEQ ID NOS. 704-712, 731-743, 774-777, 803-806, 821-824, 876-879, 890-916, 942-949, 965-970, 985-988, 994-1009, 1014-1020, 1025-1028, 1044-1048, 1053-1056, 1073-1086, 1114-1123, 1152-1160, 1173-1178, 1188-1197, 1210-1227, 1232-1244, 1258-1270, 1280-1303, 1309-1368, 1373-1377, 1386-1389, 1394-1402, 1462-1482, 1496-1525, 1542-1549, 1557-1563, 1583-1649, 1656-1679, 1684-1688, 1693-1732, 1744-1752, 1765-1839, 1846-1854, 1855-1866, 1871-1917, 1926-1941, 1952-1955, 1960-1980, 1985-2141, 2152-2165, and 2170-2292.
- 30 15. A kit for the detection of antibodies against the particular GPCR of claim 5 comprising:
  - a) an isolated antibody according to any one of claims 7-14, and

- b) at least one of a reagent or a device for detecting the antibody.
- 16. An assay for the detection of a particular GPCR in a sample, comprising:
- a) providing an isolated antigenic peptide according to any one of claims 1-5,
- b) contacting the isolated antigenic peptide with the sample under conditions suitable
   and for a time sufficient for the antigenic peptide to bind to one or more antibodies specific for the particular GPCR present in the sample, to provide an antibody-bound antigenic peptide, and
  - c) detecting the antibody-bound antigenic peptide, and therefrom determining whether the sample contains the particular GPCR.
  - 17. The assay of claim 16 further comprising the step of binding the isolated antigenic peptide or the antibody to a solid substrate.

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- 18. The assay of claim 16 or 17 wherein the sample is an unpurified sample.
- 19. The assay of any one of claims 15-18 further comprising, prior to the contacting, obtaining the sample from a human being.
- 15 20. The assay of any one of claims 15-19 wherein the assay is selected from the group consisting of a countercurrent immuno-electrophoresis (CIEP) assay, a radioimmunoassay, a radioimmunoprecipitation, an enzyme-linked immuno-sorbent assay (ELISA), a dot blot assay, an inhibition or competition assay, a sandwich assay, an immunostick (dip-stick) assays, a simultaneous assay, an immunochromatographic assay, an immunofiltration assay, a latex bead agglutination assay, an immunofluorescent assay, a biosensor assay, and a low-light detection assay.
  - 21. An isolated nucleic acid molecule encoding an antigenic peptide according to any one of SEQ ID NOS. 692-2292.
  - 22. The isolated nucleic acid molecule according to claim 21 wherein the molecule encodes a naturally occurring human antigenic peptide.
    - 23. An isolated nucleic acid molecule encoding an antigenic peptide that is at least about 90% identical to any one of the antigenic peptides set forth in SEQ ID NOS. 692-2292.
    - 24. The isolated nucleic acid molecule according to claim 23 wherein the antigenic peptide is at least about 95% identical to the antigenic peptide.
- 30 25. The isolated nucleic acid molecule according to claim 23 or 24 wherein the molecule encodes a naturally occurring human antigenic peptide.

26. A process for producing an isolated polynucleotide comprising hybridizing a nucleotide encoding an antigenic peptide according to any one of SEQ ID NOS. 692-2292 to genomic DNA under highly stringent conditions and isolating the polynucleotide detected with the nucleotide.

- 5 27. A method of identifying an amino acid sequence for an antigenic peptide from a candidate polypeptide sequence wherein the antigenic peptide has a length of about 5 to about 100 amino acids, the method comprising:
  - a) searching the candidate polypeptide sequence using a comparison window of the length, and
- b) selecting against amino acid sequences of the length and having at least 3 characteristics selected from the group consisting of 1) at least two consecutive prolines, 2) at least two consecutive serines, 3) at least two consecutive lysines, 4) at least two consecutive arginines, 5) at least two consecutive aspartic acids, 6) at least two consecutive glutamic acids, 7) methionine, 8) tryptophan, and 9) at least five consecutive amino acids comprising no charged amino acids.
  - 28. The method of claim 27 wherein the method further comprises selecting against at least 5 of the characteristics.
  - 29. The method of claim 27 wherein the method further comprises selecting against at least 7 of the characteristics.
  - 30. The method of claim 27 wherein the method further comprises selecting against the 9 characteristics.

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- 31. The method of any one of claims 27-30 wherein the method further comprises:
- c) selecting against amino acid sequences of the length and having at least one of the following additional characteristics 1) sequences having at least 5 consecutive amino acids that are identical to an alternative amino acid sequence from an alternative polypeptide that is different from the candidate polypeptide, 2) posttranslational modification sites, and 3) highly hydrophobic sequences.
- 32. The method of claim 31 wherein the posttranslational modification sites are phosphorylation or glycosylation sites.
- 30 33. The method of claim 31 or 32 wherein the method further comprises selecting against at least 2 of the additional characteristics.

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34. The method of claim 31 or 32 wherein the method further comprises selecting against the 3 additional characteristics.

- 35. The method of any one of claims 27-34 wherein the method further comprises performing a BLAST-type or a FAST-type analyses for the candidate polypeptide sequence.
- 5 36. The method of any one of claims 27-34 wherein the method further comprises performing a BLAST analysis for the candidate polypeptide sequence.
  - 37. The method of any one of claims 27-36 wherein the antigenic peptide has a length from 6 amino acids to about 50 amino acids.
- 38. The method of any one of claims 27-36 wherein the antigenic peptide has a lo length from 6 amino acids to about 20 amino acids.
  - 39. The method of any one of claims 27-36 wherein the antigenic peptide has a length of about 20 amino acids.
    - 40. The method of any one of claims 27-39 wherein the polypeptide is a protein.
- 41. The method of any one of claims 27-40 wherein the polypeptide is a human 15 protein.
  - 42. The method of any one of claims 27-41 wherein the polypeptide is a naturally occurring protein.
  - 43. An isolated antigenic peptide that is specific for the candidate polypeptide of any one of claims 27-42 that is produced according to the method of any one of claims 27-42.
- 20 44. An antigenic peptide that is at least about 90% identical to the isolated antigenic peptide of claim 43.
  - 45. An isolated antigenic peptide that is an analog of the isolated antigenic peptide of claim 43.
- 46. An isolated antigenic peptide comprising a short antigenic amino acid sequence that is identical to at least 5 consecutive amino acids of the isolated antigenic peptide of claim 43.
  - 47. An isolated antigenic peptide comprising a short antigenic amino acid sequence that is identical to or contains no more than one conservative amino acid substitution over at least 7 consecutive amino acids of the isolated antigenic peptide of claim 43.
  - 48. A kit for the detection of antibodies against the candidate polypeptide of any one of claims 43-47 in a sample comprising:

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a) an isolated antigenic peptide according to any one of claims 43-47 and derived from the candidate polypeptide, and

- b) at least one of a reagent or a device for detecting the antibodies.
- 49. An isolated antibody specific for a candidate polypeptide comprising an amino acid sequence that is identical to the amino acid sequence of the isolated antigenic peptide of claim 43, wherein the antibody was produced using the isolated antigenic peptide of claim 43.
  - An isolated antibody specific for a candidate polypeptide comprising an amino acid sequence that is identical to the amino acid sequence of the isolated antigenic peptide of claim 44, wherein the antibody was produced using the isolated antigenic peptide of claim 44.
- 51. An isolated antibody specific for a candidate polypeptide comprising an amino acid sequence that is identical to the amino acid sequence of the isolated antigenic peptide of claim 45, wherein the antibody was produced using the isolated antigenic peptide of claim 45.

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- 52. An isolated antibody specific for a candidate polypeptide comprising an amino acid sequence that is identical to the amino acid sequence of the isolated antigenic peptide of claim 46, wherein the antibody was produced using the isolated antigenic peptide of claim 46.
- 53. An isolated antibody specific for a candidate polypeptide comprising an amino acid sequence that is identical to the amino acid sequence of the isolated antigenic peptide of claim 47, wherein the antibody was produced using the isolated antigenic peptide of claim 47.
- 54. The isolated antibody of any one of claims 49-53 wherein the antibody has 20 high specificity and high affinity for the candidate polypeptide.
  - 55. A kit for the detection of antibodies against the candidate polypeptide of any one of claims 43-47 comprising:
    - a) an isolated antibody according to any one of claims 49-53, and
    - b) at least one of a reagent or a device for detecting the antibody.
    - 56. An assay for the detection of a candidate polypeptide in a sample, comprising:
    - a) providing an isolated antigenic peptide according to any one of claims 43-47,
  - b) contacting the isolated antigenic peptide with the sample under conditions suitable and for a time sufficient for the antigenic peptide to bind to one or more antibodies specific for the candidate polypeptide present in the sample, to provide an antibody-bound antigenic peptide, and
  - c) detecting the antibody-bound antigenic peptide, and therefrom determining whether the sample contains the candidate polypeptide.

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57. The assay of claim 56 further comprising the step of binding the isolated antigenic peptide or the antibody to a solid substrate.

- 58. The assay of claim 56 or 57 wherein the sample is an unpurified sample.
- 59. The assay of any one of claims 56-58 further comprising, prior to the contacting, obtaining the sample from a human being.
- 60. The assay of any one of claims 56-59 wherein the assay is selected from the group consisting of a countercurrent immuno-electrophoresis (CIEP) assay, a radioimmunoassay, a radioimmunoprecipitation, an enzyme-linked immuno-sorbent assay (ELISA), a dot blot assay, an inhibition or competition assay, a sandwich assay, an immunostick (dip-stick) assays, a simultaneous assay, an immunochromatographic assay, an immunofiltration assay, a latex bead agglutination assay, an immunofluorescent assay, a biosensor assay, and a low-light detection assay.
  - 61. An isolated nucleic acid molecule encoding an antigenic peptide according to any one of claims 43-47.
- 15 62. The isolated nucleic acid molecule according to claim 61 wherein the molecule encodes a naturally occurring human antigenic peptide.
  - 63. An isolated nucleic acid molecule encoding an antigenic peptide that is at least about 90% identical to any one of the antigenic peptides set forth in claims 43-47.
- 64. The isolated nucleic acid molecule according to claim 63 wherein the 20 antigenic peptide is at least about 95% identical to the antigenic peptide.
  - 65. The isolated nucleic acid molecule according to claim 63 or 64 wherein the molecule encodes a naturally occurring human antigenic peptide.
- A process for producing an isolated polynucleotide comprising hybridizing a nucleotide encoding an antigenic peptide according to any one of claims 43-47 to genomic
   DNA under highly stringent conditions and isolating the polynucleotide detected with the nucleotide.

SpeciesNa	Homo sapiens	Homo sapiens
Code	e,	∢
Sequence	MYSSGCRWRS LWFILVISFL PNTEGFSRAA LPFGLVRREL SCEGYSDLR CPGSDVIMIE SANYGRIDDK ICDADPFQME NTDCYLPDAF KIMTQRCNNR TQCIVYTGSD VFPDPCPGTY KYLEVQYECV PYIFVCPGTL KAIVDSPCIN TQCIVYTGSD VFPDPCPGTY KYLEVQYECV PYIFVCPGTL KAIVDSPCIN TQCIVYTGSD VFPDPCPGTY KYLEVQYECV PYIFVCPGTL KAIVDSPCIN TAILPRWDGT GFVYYDGAWC KDPLQAADKI YFMPWTPYRT DTLEYASLE DFQNSRQTTT YKLPRWDGT GFVYYDGRAA KTDDLAVDE NGLWYTYATE QNNGMIVSQ LNPYTLRFEA TWETVYDKRAA SANAFMICGV LYVVRSVYQD NESETGKNSI DYTNYTRUN GEYVDVPFPN QYQYIAAVDY NPRDNQLYWW NNMFLRYSL EFGPPDPAQV PITAVTITSS AELFKTIIST TSTTSQKGPM STTVAGSQEG SKCTKPPPAV STTKLPPITN IFPLPERFCE ALDSKGIKWP QTQRGMMVER PCPKGTRGTA SYLCMISTGT WNPKGPDLSN CTSHWYNQLA QKRSGENAA SLANELAKHT KGPYFAGDNS SSYRLMEQLV DLLDAQLQEL KPSEKDSAGR SYNKAIVDTV DNLLRPEALE SWKHMNSSEQ AHTATMLLDT LEEGAFVLAD NLLEPTRVSM PTENIVLEVA VLSTEGQIQD FKFPLGIKGA GSSIQLSANT VKQNSRNGLA KLVFINTSSL GQFLSTENAT IKLGADFIGR NSTIAVNSHV ISVSINKESS RYYLTIDPVLF TLPHIDPDNY FNANCSFWNY SERTMMGYWS TQGCKLVDTN KTRTTCACSH LTNFAILMAH REIAYKDGVH ELLLTVITWV GIVISLVCLA ICIFTFCFFR GLQSDRNTIH KNLCINLFIA EFFLIGIDK TKY AACPIF AGLLFFFLA AFAWKLEGY QLALMSFTWS FIGPYTFILL LNIIFLVITL CKMYKHSNIL KPDSSRLEIN KSWVLGAAL LCLLGLTWSF GLLFINEETI VMAYLFTIEN AFQGVFFIF HCALQKKVRK EYGKCFRHSY CCGGLPTESP HSSVKASTTR TSARYSSGTQ SRIRRMWNDT VRKQSESSFI SGDINSTSTL NQGHSLNNAR DTSAMDTLPL NGNFNNSYSL HKGDYNDSVQ VVDCGLSLND TAFEKMISE LVHNNLRGSS KTHNLEILTP VKPVIGGSSS EDDAIVADAS SLMHSDNPGI ELHHKELEAP LIPQRTHSLL YQPVIRGSSSFIEDDIY VKSMPNIL AG DVRCTPEG DVRFGOMOLY YKSMPNILGAG PUNECOPOLYTIS RGNNGTYRIN PKFGCIPEG DVRFGOMOLY YKSMPNILGAG FUNECOPOLYTIS RGNNGTYRIN PKFGCIPEG DVRFGENDO	cegeggdgg gagacagega gocagagict ggglgittgt gegagagoca eggeggggggg tgggggggg ggeggggl getgaagget gegeteigea acettgaaga geogetgeat tgagaggoca gggacaggga gaeeggigeg atggeagage geggeecoeg eegetgegee gggeeeggee ggetggeetg ageogoegga ggageggge tgeetetgeg egtecatgga
Source ID	NP_036434.1	NM_018490
Gene	160397 Latrophilin-2	G Protein- Coupled Receptor GPR48
LSID	160397	160411
SEQ ID LSID	226	527

aaggoctgat atotolaagg attotagato tgagtagaaa ootgatacat gaaattoaca gtagagottt tgocacactt gggocaataa taacaataaa attagaggoc tgagtoaaca ctgttttgat ggactagata acotggagac ottagacttg agttataata acttggggga alectaacti tietigaige igigiecigg ggeagaiteg cigaalitigg ealtiggigg gaaaciggea giggeigeaa agiagetggg titetigeag titictecte agaaagigee alaitittat taaigetage aacigtegaa agaagettat etgeaaaaga tataalgaaa itoticaaco caaagittaa agaagactgg aagitactga agegacgigi taccaagaaa agiggaicag iticagitic caicagiage gettacaate taccaagagt taaagaetga aetaetgigt gigtaacegt ttecceegte aaccaaaate agtgittata gagtgaacc gacaggiac aaagataagc agcataccta ataattigtg tcaagaacaa aagatgctta ggacttigga ctigtcttac aataatata ctaacctaga tgtaagtitc aatgaattaa cttoctiticc tacggaagge ocgaatggge taaatcaact gaaactigtg ggcaactica greactorta tgcaaatta aacacagaag ataacagcot ccaggaccac agtgrggcac aggagaaagg tactgctgat gcagcacatgt cacacttcaa caggrgcttt taagcootgt acaggogotg accotggoto toaacaagat otcaagoato cotgactitg cattaccaa cotttoaago otggtagito tgoatottoa gagacottoc aagtittaat ggitgocatg ctotggaaga aattictita cagogtaato aaatotacca aataaaggaa ggcacottto aalgggaaga gcaatcatct caaacagtte egggttgetg ecetttegge ttteetaggt getacagtag caggetgttt teeettte ltaaacicac tagcattiti attaatggcc gitatciaca ctaagciata ctgcaactig gaaaaagagg accictcaga aaactcacaa gicattitica aagaacaggi gootaaaita taaatiggig aaaaaigcaa igiccaagca aigtaigaic igttigaaac aaatataiga agotgaaaga agoottagoa goaaaagact tigitaacot caggiottia toggiaocai aigottatoa gigotgigoa titiggggit catagagggg aatattctgc atcacccctt tgtttgccat ttcctacagg tgaaacgcca tcattaggat tcactgtaac gttagtgcta ctgctgcgaa tcgtttcttt taacaaagcc agtatcatgc aaacacttga taaaatcaca cagctgtcct gcattggcag tggcttcttg introcate itteatering gaageactie tgiaateact geetggigte actiagaaga aggagaggig geagittait teteaaaeea taattagac gaaacgggga glaattatga cacgaagtac ttatgittat ticttagtga gctggattat cttgaacctg tgctattaaa ggaaattte catacatett ececataeta tttttataa aagageetat teaatagete agaggttgaa etetggttaa acaagataat anactactan ctanifiggg ggillantag tatcignggg attiggigge ticnigant gitcicnita atgantacti cctaniaicg iggototae taatattite caatitgotg ggaigteace tageaatage tiggaitata tagaaagtaa actgiggtea ataettgeat cttgaaaagg atcttaggtg tagtagagca atataatgtt agttttttct gatccataag aagcaaattt atacctattt gtgtattaag atticotcag gotattaaag cocgtoctag cottaaagag ctaggattte atagtaatte tatttetgit atcoctgatg gagcatttga aatcagtaat ittitcitaa gigittigig attacactac tagaaaaaaa gtaaaaggct aattgcigig igggittagi cgattiggci ctgaagatgt ttttaaaaca atattaacag ctgttaggtt aaaaaaatag ctggacattt gttttcagtc attatacatt gctttggtcc gglaatoca cicttaagaa ctalacatti glatgataat octofatoti tigtggggaa cicagcatot cacaattiat otgatotica adgeaatet etateagece egaaataatg aagteigtta etetgatatt ittteeattg eetgettgee igaateeagt eetgratgit acattigcat ctigtacate aetgeetteg tecaaatigt ttataggett gattietgig tetaaettat teatgggaat etataetgge cacaagataa agaacagctg ttaatatttt ttaaaaatct atttaaaat gtgatttct ataactgaag aaaatatctt gctaattta lacataggea tractitatt atgitticae tigecalect igacataaga gaactataaa tittgittaa geaattiata aatetaaaae ictagoatga itaagoatgi ogottggota atottoacca attgoatott ittotgooot giggogitti ittoattigo accattgato gaatatttac teggaagctg gatgattcgt citactgtgt ggticattit citggitgca trattitica acctgcitgt tattitaaca ocaaagacct gagggctact ggtocgactg tggcacacag toggcocact ctgattatgc agatgaagaa gattocttig gitcagitac ggcaictgig gciggaigac aacagcitga cggaggigcc tgigcacccc ctcagcaatc tgcccacct ict cagacag tict gaccag gig caggect giggacgage cigcitotac cagagiagag gattecetti ggigegetai cotaatgiti catecitaai otcaggacaa ottacigoag ggecaaaaaa gggacigico cagolagaac igtgagagta caaggtggtt gtctggaaca ggatttctac tacgactgtg gcatgtactc acatttgcag ggcaacctga ctgtttgcga tecetagte attegtggtg caageatggt geageagtte eceaatetta caggaactgt ecaeetggaa agtetgaett

sapiens Homo Homo 4 MAVIYTKLYC NLEKEDLSEN SQSSMIKHVA WLIFTNCIFF CPVAFFSFAP LITAISISPE ENEEHSOIII HCTPSTGAFK PCEYLLGSWM IRLTVWFIFL VALFFNLLVI LTTFASCTSL SYNNIRDLPS FNGCHALEEI SLQRNQIYQI KEGTFQGLIS LRILDLSRNL IHEIHSRAFA negtiattaa taaaaataga agaagaaaga ataaagctta gtootgegto titaaaaatt aaaaatttta ottgattooo alotaigggo ttagaccta ttactggglg gagtcttaaa gttataattg ttcaatatgt tittigaaca gtgdgctaaa tcaatagcaa acccactgcc iottaigtaa aitaititta gaacacaagt igggaaaigt ggoticigti catticgtit aattaaagot acoloctaaa clalagiggo Igocagtago agacigtiaa attgiggtit atalacitti igoaligiaa atagicitig itgiacatig icagiglaal aaaaacagaa atattagtia ticigaatai actaaaaaaa locagciaga tigcagtita ataattaaac igtacatact gigcatataa igaattitta icttigiata icaaaatcai giagtiigia taaaaigigg gaaggattia ittacagigi giigtaatti igtaaggcca actatttaca agtittaaaa attgctatca tgtatattta cacatctgat aaatattaaa tcataacttg gtaagaaact cctaattaaa aggttttttc caaaatteag gttattgaaa attitteatt ttatteattt aaaaactaga ataacagata tataaaagtg ttaatetttg tgetatatgg CPALAVASCQ RPEGYWSDCG TQSAHSDYAD EEDSFVSDSS DQVQACGRAC SLSVPYAYQC CAFWGCDSYA NLNTEDNSLQ DHSVAQEKGT ADAANVTSTI MPGPLGLLCF LALGLLGSAG PSGAAPPLCA APCSCDGDRR VDCSGKGLTA SSQGGCLEQD FYYDCGMYSH LQGNLTVCDC CESFLLTKPV SCKHLIKSHS AGFLAVFSSE SAIFLLMLAT VERSLSAKDI MKNGKSNHLK QFRVAALSAF ILGPITINLDV SFNELTSFPT EGPNGLNQLK LVGNFKLKEA LAAKDFVNLR GLVOLRHLWL DDNSLTEVPV HPLSNLPTLQ ALTLALNKIS SIPDFAFTNL SSLVVLHLHN NKIRGLSOHC FDGLDNLETL DLSYNNLGEF POAIKARPSI LVIRGASMVO OFPNLTGTVH LESLTLTGTK ISSIPNNLCQ EQKMLRTLDL PSSKLFIGLI SVSNLFMGIY TGILTFLDAV SWGRFAEFGI WWETGSGCKV LSGLKELKVL TLONNOLKTV PSEARGLSA LOSLRLDANH ITSVPEDSFE VPEGLSAFTQ ALDISMANIT QLPEDAFKNF PFLEELQLAG NDLSFIHPKA IMKSVITLIFF PLPACLNPVL YVFFNPKFKE DWKLLKRRVT KKSGSVSVSI KELGFHSNSI SVIPDGAFDG NPLLRTIHLY DNPLSFVGNS ASHNLSDLHS LGATVAGCFP LFHRGEYSAS PLCLPFPTGE TPSLGFTVTL VLLNSLAFLL tatgaaatac aatattgtac tcagtgtttt gaattattaa agtttctaga aagcaaaaa a FYOSRGFPLV RYAYNLPRVK D NP\_060960.1 Coupled Receptor G Protein-LS160435 160411 529 528

Receptor

	Homo sapiens	Homo sapiens	Homo sapiens
	Ω.	∢	Ωι
gettegecce caacaactic gigetectigg egeacategt gagecgectig tietaeeggea agagetacta coacgigate aagacteaege tigticteag etgetecage aactgictigg acceptigig tiatlactit gegteceggg aattocaget gegeteggg gaatatitieg gedecegeg gggeccaga gacaccetigg acceptigig tiatlactit gegteceggg aattocage ggaccacgic egiggecegg ggggeccaga gacaccetigg acaegegeeg egagagect tietoegea ggaccacgic egiggegeege ggggggggggggggggggggggg	IATLOMLRNP AIAVALPVVY SLVAAVSIPG NLFSLWVLCR AINLSVTDL MLASVLPFQI YYHCNRHHWV FGVLLCNVVT LTMTCISVE RFLGVLYPLS SKRWRRRYA VAACAGTWLL DLTYPVHAL GIITCFDVLK WTMLPSVAMW AVFLFTIFIL LFLIPFVITV XTEEAHGRE QRRRAVGLAA VVLLAFVTCF APNNFVLLAH AHVYKLTLC LSCLNNCLDP FVYYFASREF QLRLREYLGC RESLFSART TSVRSEAGAH PEGMEGATRP GLOROESVF	ccagtgt aa ccttggagtc ataaagatct gaagaatac aa ttgttgttga ttat caattatctt gattg aic aaggaaaagt ait tittaaatt aat ggaaaaagg c ctcagccaga cctcagccaga cgaac ctgtgctttg caag	GSCFATWAFI QKNTNHRCVS V KLKIFHCQVT ACLIYINMYL SIIFLAFVSI L MVLLIMVPNM MIPIKDIKEK
	LR80	NM_013308	NP_037440.1
·	LS160435 Receptor	Platelet Activating Receptor Homolog (H963)	Platelet Activating Receptor
•	160435	160889	160889
	530	231	532

	Homo sapiens	Homo sapiens
	∢	ሷ
SNVGCMEFKK EFGRNWHILT NFICVAIFLN FSAIILISNC LVIRQLYRNK DNENYPNVKK ALINILLVTT GYIICFVPYH IVRIPYTLSQ TEVITDCSTR ISLFKAKEAT LLLAVSNLCF DPILYYHLSK AFRSKVTETF ASPKETKAOK EKLRCENNA	gagggaggg geogggega deggagoeg caggagoeg gagooceaco caaalood geggaategeg totocalgge gagaggg cagcogga gaggoeggg aggooceaco caaalood geggaatege gagaggg accagaateo coagcogo calaigateg gegaagga gagagoegg gagaggg accagaaco coagcogo calaigateg gegaagga gagagagga gagagagga gagagaga	MARGGAGE ASLRSNALSW LACGLLALLA NAWILSISA KQQKHKPLEL LLCFLAGTHI LMAAVPLTTF AVVQLRRQAS SDYDWNESIC KVFVSTYYTL
963)	NM_019858	NP_062832.1
Homolog (H963)	161024 Protein A	Protein A
	161024	161024
	233	534

·Barbibus cales
MARGGAGE ASLRSNALSW LACGLLALLA NAWIILSISA KQQKHKPLEL
LLCFLAGTHI LMAAVPLTTF AVVQLRRQAS SDYDWNESIC KVFVSTYYTL
ALATCFTVAS LSYHRMWMVR WPVNYRLSNA KKQALHAVMG IWMVSFILST
LPSIGWHNNG ERYYARGCQF IVSKIGLGFG VCFSLLLLGG IVMGLVCVAJ
TFYQTLWARP RRARQARRVG GGGGTKAGGP GALGTRPAFE VPAIVVEDAR

	Homo sapiens	Homo	Homo sapicns
	∢	<b>a</b> .	∢
GKRRSSLDGS ESAKTSLQVT NLVSAIVFLY DSLTGVPILV VSFFSLKSDS APPWMVLAVL WCSMAQTLLL PSFIWSCERY RADVRTVWEQ CVAIMSEEDG DDDGGCDDYA EGRVCKVRFD ANGATGPGSR DPAQVKLLPG RHMLFPPLER VHYLQVPLSR RLSHDETNIF STPREPGSFL HKWSSSDDIR VLPAQSRALG GPPEYLGQRH RLEDEEDEEE AEGGGLASLR QFLESGVLGS GGGPPRGPGF FREEITTFID ETPLPSPTAS PGHSPRRPRP LGLSPRRLSL GSPESRAVGL PLGLSAGRRC SLTGGEESAR AWGGSWGPGN PIFPQLTL	toccaggigo cogicigatig gggagatiggo tgatigoccag aacaitticae tiggacagocc agggagtigig ggggactigg cagiocigit ggictifface charittice teaticitics tigtiggicaa agtgggcaat gggctggige tiggicagitg tigtiggigo charittiggigo tiggicagitg ciggicagitg categocgigo gatgocgaccagoc gatacagoca tigticagoc teitiggigo citiggigo citigiticat categocagocacat chacacgotig gatgoctigo tittiggigo cotogitica aaggocgitica actigicagocacacat chacacgotig gatgoctigo tittiggigo cotogitica aaggocgitica actigicagocacacat chacacgotigo gatgoctigo gatgoctigo aaggocgitica actigicagocacacat chacacgotigo gatgoctigo aaggocgitica aggocgitica chacacacacacacacacacacacacacacacacaca	MADONISLD SPGSVGAVAV PVYFALIFIL GTVGNGLVLA VLLQPGPSAW QEPGSTTDLF ILNLAVADLC FILCCVPFQA TIYTLDAWLF GALVCKAVHL LIYLTMYASS FTLAAVSVDR YLAVRHPLRS RALRTPRNAR AAVGLVWLLA ALFSAPYLSY YGTVRYGALE LCVPAWEDAR RRALDVATFA AGYLLPVAVV SLAYGRTLRF LWAAVGPAGA AAAEARRRAT GRAGRAMLAV AALYALCWGP HHALILCFWY GRFAFSPATY ACRLASHCLA YANSCLNPLV YALASRHFRA RFRRLWPCGR RRRHRARRAL RRVRPASSGP PGCPGDARPS GRLLAGGGQG PEPREGPVHG GEAARGPE	atggegetga eccegagte ecegageage tteetggge tggeegeea eggeagetet gtgeeggage egeetggegg eccaaegea aceteaaea geteetggge eageeegaee gageeeaget eetggagga eetggtggee aegggeaeea ttgggadet getgteggee atgggegtgg tgggegtggt gggeaaegee tacaegetgg tggteaeetg eegeteedg
	NM_003614	NP_003605.1	NM_018949
	GalR3 GalR3	Galanin Receptor NP_003605.1 GalR,3	Urotensin-II Receptor (GPR14)
	161214	161214	161221
		536	537

Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
<u>a</u>	∢	۵.	∢
ctgggcctgc ticctgcct tctggctgtg gcagctgct gccagtacc accaggccc gctggcgcc ggacggcgc gcaccgcc acccgcct accaggcac acccttc tctacacgct gctcaccagg aactaccgcg acccdgct acccgccgc accccttc tctacacgct gctcaccagg aactaccgcg accacggc gccgcgcgg gcagcggggg agccggggg agccggggg acccggcc gctcaccagg accacgcc ttcagcgc gcccgcgc gcccgcgc gcccggcg cccggcgg	algectiges algesaging exceanging cartificate cigagistic gaactigat gacgagica transpared algectiges algectiges cartificate transpared activities and cigaging exceanging earlings of the cigaginal cities gardering garactige gacacaagic categoracal activities gardering garactige gacacaate actaoctic cagoctigue gacatingging gardering garderingging categorac garderingging categorac garderingging categorac garderingging activities garderingging categorac garderingging activities garderingging garderingging categorac garderingging garderingging cagadicag garderingging gardering activities and gardering garderingging g	MACNGSAARG HEDPEDLNLT DEALRLKYLG PQQTELFMPI CATYLLFVV GAVGNGLTCL VILRHKAMRT PTNYYLFSLA VSDLLVLVG LPLELYEMWH NYPFLLGVGG CYFRTLLFEM VCLASVLNVT ALSVERYVAV VHPLQARSMV TRAHVRRVLG AVWGLAMLCS LPNTSLHGIR QLHVPCRGPV PDSAVCMLVR PRALYNMVVQ TTALLFFCLP MAMSVLYLL IGLRLRRERL LLMQEAKGRG SAAARSRYTC RLQQHDRGRR QVTKMLFVL VVFGICWAPF HADRVMWSVV SQWTDGLHLA FQHVHVISGI FFYLGSAANP VLYSLMSSRF RETFQEALCL GACCHRI RPR HSSHSI SRMT TGSTI GONGVHPI AG NINGPEAOOFT DPS	atggodaec tigacaata cacigaaca treagatgg giagcaacag taccagcact gotgagatti actgiaatgt cactaatgtg aaatiticaat actcocicta tgcaaccac tatatocica tattcatice tggtctictg gctaacagtg cagccttgtg ggttctfgtge cgcticatca gcaagaaaa taaagocatc attiticatga tcaacctct tgtggctgae cttgctcatg tattattit
NP_061822.1	NM_006056	NP_006047.1	NM_014499
Urotensin-II Receptor (GPR14)	G Protein-Coupled Receptor GPR66	G Protein- Coupled Receptor GPR66	Purinergic Receptor P2Y10
161221	161249	161249	161251
538	239	540	541

	Homo sapiens	Equine herpesviru s 2	Homo sapiens
0	<u>a</u>	۵.	∢
accoctocgg attractant acatcagoca ccactggoct trocagagag coettrgect getergete tacetgaagt atctcaacat gratgecage attractant acatcagocal cagtestica a aggigent tetracteaa gocettcagg gocagagact ggaagegag gracgatg ggacagocag gracgatgg ggacagocag gracgatgg ggacagocag gatgattacag gacagagacagg acttaaacaa caacaagtoc tgetttgetg atcttggata caagcaaag aatgcagtt cettgategg gatgattaca gttgetgag ttgatcagagat tgragatcaca ggatcatca tegcatggg tacctggaaa actactatat cettgagaca gocaccaatg getttccaag ggatcagata tgragatca tggtgttcat gttgtgetga actactata tettgagaca tegcatca attaactta tttttacac catggaaaag gaaaccatca ttagcagtt toccgttge cgaatcgac tgtattcca coettitige etgtgcttg caagtcttg caagtcttg ctgcttttg gatccaatte ttatggettca gagtttegt accaactat coecatggc agttcttgaa coecatoc cecatgga aggacagagagagagagagatg gatcatcaa gattggctaa	MANLDKYTET FKMGSNSTST AEIYCNVTNV KFQYSLYATT YILFIPGLL ANSAALWVLC RFISKKNKAI IFMINLSVAD LAHVLSLPLR IYYYISHHWP FQRALCLLCF YLKYLNMYAS ICFLTCISLQ RCFFLLKPFR ARDWKRRYDV GISAAIWIVV GTACLPFPIL RSTDLNNNKS CFADLGYKQM NAVALVGMIT VAELAGFVIP VIIIAWCTWK TTISLRQPPM AFQGISERQK ALRMVFMCAA VFFICFTPYH INFIFYTMVK ETIISSCPVV RIALYFHPFC LCLASLCCLL DPILYYFMAS EFRDQLSRHG SSVTRSRLMS KESGSSMIG	MATTSATSTV NTSSLATTMT TNFTSLLTSV VTTIASLVPS TNSSEDYYDD LDDVDYEESA PCYKSDTTRL AAQVVPALYL LVFLFGLLGN ILVVIIVIRY MKIKNLTNML LLNLAISDLL FLLTLPFWMH YIGMYHDWTF GISLCKLLRG VCYMSLYSQV FCIILLTVDR YLAVVYAVTA LRFRTVTCGI VTCVCTWFLA GLLSLPEFFF HGHQDDNGRV QCDPYYPEMS TNVWRRAHVA KVIMLSLILP LLIMAVCYYV IRRLLRRPS KKKYKAIRLI FVIMVAYFVF WTPYNIVLL STFHATLLNL QCALSSNLDM ALLITKTVAY THCCINPVIY AFVGEKFRRH LYHFFHTYVA IYLCKYPFL SGDGEGKEGP TRJ	gegagaaocc egadtgaccg cegecacege ggclccccga cctgccgcgt cctgcgggcg gegctgggct ccgggcactc gggctgcgcc cccatggcct cgcccgcggg gaacctgagc gcgtggccgg gctggggggg gccgcgcg gccgcgctga
	NP_055314.1	NP_042597.1	NM_006679
	161251 Purinergic Receptor P2Y10	G Protein- Coupled Receptor Ls161293 [Herpes virus]	177147 Neuromedin K Receptor-Like
		161293	177147
	542	543	544

caacoccaic aictactgot giotgaataa gagattiogi gotggottoa agagggotti oogotggigo ootticatoo aogiotocag ctacgacgag otggagotca aagocaaccag gotocacoca atgogacaga goagoctata cacagigaca agaatggagi ggaaccigae cicciccog goccegaceg egicccegic ceeggeceeg iegiggaege coiegeegeg coeggeeee ocatgagogt ggtattogac tocaacgatg gggacagtgc caggtocagt caccagaaga gagggacgac cagagacgta

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getocaalg tetgeteceg caggaactec aagtecaect ecaecacage cagettegtg agetectece acatgteggi

gaaggacag titttagaca gctacgetta caataagaca gattgeacat aaatataaca aaaatactac taagatatga getetecee

aitaaagiti aaaaittaai acigicagig aagagaagcc aigitticca itacagagca lagaaiggaa aagitaaaig acicalliic Itacaatagi gaiggaaiti taaccicaaa aactaacaal taacgaaaic Icaagaaaac ciaittigia ccataacaai titcaaagac

ocgagaaata titataaagi giccagitti gcitattiaa aagicacigi gcacattigi gacacigata iggiagitti ticccaaaal

caaaaaaaga acaaaatggg ctttaagagt atgccttgaa aactctaaat tattaatatg atacaaacaa aaatatagal

paaaatgiag cittgattgt tacatatttt aaatgocaag taatatgia gitaaacita agaocitaaa aggacaaaca aaatloctat galoototat tittoagaat titgitotaa giagglaagit tgtaagacat taaatatact tiotgagatg gaaggaaaga aloocattig

attaaaiga aaaggaaacc taaaicaaac cactaggett atciaaaige etiteiteita titititeig agaaaaigai ticaaaggaa

cagotocaag geagtigiti itococtgia occoagoaaa agticoagac afgeactita icaaccatai ogtgicotoc toctootica

ictet glaac t gget getag cett taggea ggaaccacc a cagcet cac gtagecat ga aggt ggacag gaacacet co

icaaagaagg agtgtgggca tgggggaagg atcagaatgc gtcttgtgaa aatcctgaga ggaaaaagtt gtaagaatta

igaaagcaaa tatagctgat gaagttaata tacalgttgg aaaatcagac aggaagtaga aagttgagtc aactctttga

agocotterg torgaatto gaagotaaaa agtatgaaat gatgoocatg cagagoogot ttagtgggot ototgtgagt aaatotatgo ttigcagtca aacactactc aggacactga gcagalaggt acaacatctt agggttiatt aaaittagat cagcagacaa aaatcctaaa gcataggtaa cccttgtccc tccagaaagg acgggaaaga ggcatttgtt ttactacaat agtatatttt ttgagaacca tatttgtgag ctalgitgag aaaaataigg gaaaaaaaag ootigootig iiitaaatai tolootiiit gaaagaacai gotagtaaaa caaacaaaca taaaacaat tcaactaaca gtaacaatct gagticcatt ttcctttgat ggfgtgccag aagttaagga aatcaagcat aacattggcc alcactect ctagtatge agazatactg aggrecaggt cacatetett azatagttaa gaazactga cateatttae teaatagtea caatatcaag aagtaaatta aaattaattc taaaacagta taagtggtct ttocagggtt cotagaaata acotaataaa atotgtgaaa cagigittic acatiligoca aggettagaa gcattigoot ocaaaigogo totacoccaa tactaacgto cacgiocato ticticatta iliggaitgg aittigitaa igcagaaitt coccagaaac cigiaalcag igicigitaa aitgciccai tacatacaaa gacaggagga octicottag igicagaaco aaataactii icaaagaica goataaaago aattatooaa igacaagiga iggictatig itaoootgai ggagiccag ictagctiti tittagiggi icagiaigti gtigcatgat iccaccicce aggigacatt ictgacccag aagccacatt igititatic cicaatotig aagcatgaac cittoottaa attaggaata cigtoaatoc tgotgaagaa atcacaacce tictiggaaat aatticatat agicagocac taacaaagta tatotgaaat acatactott gacottoaca tgcattacgc aaattoatgc tatggogttt gactittaa actaagatti attalatata attitcaagi tcaagaaatg taagcaataa cagtaaaatg aatgaaaag gctaaaggit attaatctoc caatcotgot tiggagocaa agtoagaaat attiagtigt tagtotaaac agottaacaa catgagttig agtigaatti calgigigea citititaga taaacaaaig tatcataatt tagaatetaa tigitigaat gittiaacat giaegggage tiggiettea caagtigtigg aaattatact gagtatigcta aaaattocat citicigtata tigtgocagta tittiggaaag titaaatoca atigtititat itatigigi gattiaatat acattactga aatoctgoga goaagaatti catatataa aaattigtag goagtgoata aagtattitt ctaaaigtgt tatataaact totgtaaaat attgtaggt tttgaaaact gtotaaaata attatotota acattlattt cattgotatg cacacaaage accaagaage ttagtactaa acctaacaaa cacaaaataa atgtaaaaac caacactagt tacctcagaa ctaaagaaaa aatagtagct taatctigit tigitctgit igittggaat ititictita gtagattigt igitgcctig ctaccgagc nigaagaaaa aaatigtaac aatotcactig gaggocaaac aggaatiggag aatoacattt aatigaigotig tacaaagtoa ctttaatga caccaataaa cacaaacaag tagatggcac aataaatttg cagacatata caaccagcca atgaatgtaa aagatgtacc atagttiggg tcaccegtca ggtgagtgac aatattaccc (gcigticca cacagagacc tglacgcict ttgaattict attatttgc acctggacaa agtgactgaa gtggcctgcc ggggaaaagt ttaaagcaaa cgcggctttg lacgititca ggacgiaaat cigaaaatci citgcaaaaa gaaatcigge caacticaaa gitocgocge cettagaagg

Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
۵.	∢	<u>م</u>	∢
ttaaatatat taaaaatcat atgaaaaat MASPAGNLSA WPGWGWPPPA ALRNLTSSPA PTASPSPAPS WTPSPRPGPA HPFLQPPWAV ALWSLAYGAV VAVAVLGNLV VIWIVLAHKR MRTVTNSFLV NLAFADAAMA ALNALVNFTY ALHGEWYFGA NYCRFQNFFP ITAVFASIYS MTAIAVDRYM AIDDLKPRL SATATRIVIG SIWILAFLLA FPQCLYSKIK VMFGRTLCYV QWPEGSRQHF TYHMIVIVLV YCFPLLIMGI TYTIVGITLW GGEPGDTCD KYQEQLKAKR KVVKMMIIVV VTFAICWLPY HIYFILTAIY QQLNRWKYIQ QVYLASFWLA MSSTMYNPII YCCLNKRFRA GFKRAFRWCP FIHVSSYDEL ELKATRLHPM RQSSLYTVTR MESMSVVFDS NDGDSARSSH QKRGTTRDVG SNVCSRRNSK STSTTASFVS SSHMSVEEGS	aiggaigana cagganaict gacagiaict ictgecacal gocalgacac tattgaigac treegeaate aagtgatte cacettgac ictatgaict cititgage autogate algettig (getciatg celeanaaa acetaicaca agaagtcage ettecaagta facatgaita attiagoagt ageagated ettigtigt geacactgec teteogitg getciataig ticacaaagg cattegate titiggipaci tetigigoog ceteageace tatgettigt atgicaacet cititgtigg atctittia (gacagocat gagttitic eggigeatit ceagtocag aacattaait tggitacaca gaaaaaagc aggittigtigg tygiaggiai tiggattiti eggattitiga ceagtitic cattettia (gacagocac aaaaagaiga gaaaaataa accaagget tigagococ acaagacaat caaactaaaa atcatgitti ggictigcat tatgiticai tgttitigg ettatcaic cettititia tataaitgi etgitacaca algaicatti tgacctiact aaaaaaatca atgaaaaaaa atcgitcaag teataaaaag getalaggaa tgalcatggi eggaooget goctittiag teagtiticat gocalateat atteaacga ceattcacet teattitia cacaatgaaa etaaaccetg tgateteget cattetggi aacttagga aaaaggetgic tacatteaga tagtetggg etgetlega occagaaaga aggoctett teecagaaaa geapaaaga aggoctett teecagaaaa gagacatti tgecagogg gactlaigta occagaaaga aggoctett gecagaaaa gagacatti tgecagaaaa geapaaaaa aggacaaa atagaaaga aaagcotett tgecagaaaa gagacatti tgecagaagaa aggoctetti tgecagaaaa gagacatti atagaaga atagaaaga aggoctettiga occagaaaga aggoctettiggeacagaaa gagacattigaaga aaaggoctet aaaacataaaa geapaaaaa agaaagaaa agaaaga atagaaaga aggoctettiga occagaaaga aggoctettiga occagaaaga aggoctettiggeacagaaa agaagaagaa agaagaagaa agaagaagaa agaaagaag	MDETGNLTVS SATCHDTDD FRNQVYSTLY SMISVVGFFG NGFVLYVLIK TYHKKSAFQV YMINLAVADL LCVCTLPLRV VYYVHKGIWL FGDFLCRLST YALYVNLYCS IFFMTAMSFF RCIAIVFPVQ NINLVTQKKA RFVCVGIWIF VILTSSPFLM AKPQKDEKNN TKCFEPPQDN QTKNHVLVLH YVSLFVGFII PFVIIIVCYT MIILTLLKKS MKKNLSSHKK AIGMIMVVTA AFLVSFMPYH IQRTIHLHFL HNETKPCDSV LRMQKSVVIT LSLAASNCCF DPLLYFFSGG NFRKRLSTFR KHSLSSVTYV PRKKASLPEK GEEICKV	ccacgeptor geoggatgea eggregeaco ggeagegget caggetoegg etotletox getgeagcag cogegetgeo ggeoccactg ggeoccactg ggeoccagge coeteggeaco etotleggeacoetggageacoetggeacoetggageacoet
NP_006670.1	NM_006639	NP_006630.1	NM_007232
Neuromedin K Receptor-Like (NK-4R)	Cysteinyl Leukotriene CYSLT1 Receptor	Cysteinyl Leukotriene CYSLT1 Receptor	Histamine H3 Receptor
741771	177168	177168	177191
545	546	547	548

geggtgetgg cegegetat gegegetet alegtggea eggtgatggg caacgegetg grangeteg cettegtgg cgactegate teceparate construction and geggtgeteg caactegate caactegetgg grangeteg cettegtgg cgactegae teceparate categorae geggggg georgetggae ctteggecgg gggcttgga agetgtgga ggaggggae tacctgatg tgactega ggaggggae ctteggae ggctatgga agetgtgga ggaggggae tacctgatg tgactega agetgtgga gaggggae atactgatg tacctgatg gaagggae agetggae agetggae agetggae agetggae agetggae ggaggtae ataccgggae cagcagggae agetggae agetggae agetggae gaagggae gacaggae gaagggae agetggae agetgae ggaggae ggaggae gaacagae agetggae agetgae agetgae gaaggae agetgae agetga

Homo

sapiens

Ношо

cettergret ettgealaag ceteaggeet ggecetttea eccetettee caceaactet etergeece aaaagigtea aggggeecta essacette geagtiactg gitggigite tteceaaage aageacetgg gigigeteea ggetteetge ectageagti tgeetetgea ggaaccicga agcigitoto igotiticca tictgggigi titcagaaag aigaagaaaga aaacaigici gigaactiga igticgtggg aadiggiadi todoatoac ggottocaco otggagfitci ttacgocott ootcagegto acottottia acotcagoal etacotgaac stgaggegge egtaggeget gaggeegggg aggegacot eggggggge ggtgggggg gotoegtgge ticacocace atceagagge geacegect ceggetggat ggggetegag aggeageegg eccegagece ecteeegagg eccageede accoccca cogcotegot gotegegote otegoagaag gegoacegeg aggocatecc gotecacagg tategegege caaggegige aggggeggic cagaggaggi gccggggcag gggcgctic gccaigiget gigcaccegt gccaegegd ccagetocg gcagetecte gaggggeaet gagaggeege geteacteaa gaggggetee aageegtegg egtectegge cggcagccac cotgocatgg aggogcotto otgggttggc cagagggcoc otoactggot ggactggagg otgggtggoo dgcccggc caddgill gdcaccag gaccictggg ggilgtiggg aggaggggc ccggdgggc ccgaggggc ggcootgeco cocacattet ggetecaceg gggagggaca gtetggaggt cocagacatg etgeocacoc eetgetggtg egigeacaea ectgeacaee ectgeacaea ectgeacaee giecetetee eeggacaage eeaggacaet geetitgetg ctegetggag aagegeatga agatggtgte ccagagette accageget tteggetgte tegggacagg aaagtggeca gotocotigga gcactgotigg aagigagtigg occaccagag cotocotcag ccacgootot otcagoçcag gtotoctiggg cgetaagget teeggetgag etgtgecage tgettetgee eaccegeet etgggeteae accageeetg gtggecaage ctaccetetg (gecaccaca getteegeeg ggeetteace aagetgetet gececcagaa geteaaaale cageoceaca atgittaatc aagagagaca aaattgctga ggagctcagg gctggattgg caggtggggg ctcccacgcc ctcctccctc catelggooc tgotgoocc tacccggotc gitcooccag ggglgagooc cgccgtgict gtggcootct citaatgoca agicgciggc cgicatcgig agcatcitig ggcicigcig ggcccatac acgcigciga igalcalccg ggccgctigc catggocact gogrocotga ctactggtac gazacctect totggetect gtgggocaac teggetgtea accetgtect edgeatgete etetgeetgt gecegetgeg etgecetgea aaecgtgagg teacaalaaa gtgiattiit tlaaaaaaaa aaaaaaaa aaaaaaaa

⋖ gacatggag agtaacctgt ctggoctggt goctgctgoc gggctggtgc ctgcgctgoc acctgctgtg acoctggggc gacagctgc ctacaccacc ctgtatgcoc tgctcttctt ctocgtctat goccagctct ggctggtgct tctgtatggg cacaagcgtc TASTLEFFTP FLSVIFFNLS IYLNIQRRTR LRLDGAREAA GPEPPEAQP SPPPPPGCWG caccelgeaa tteccaccec teegtattta tttecetggt ecegeogaca gteceteett gtetgtetee gggatteagg ecteedtee cagciates gaeggigite eiggeoetet giergetetg ggoegoetig egiaceaooc tettefeeti etaettoega galacteoec ageggeeget gecetgacee gaegggtate ageeggetet ecectecae eccaggaega catgaaegae egaggeagg ceggicigic ciggagaaaa gagacigcce ttecalgece cigagigagg ggocigggge caggetgoci gigttecoca gagicoloto otigggodo igcalococo calcotiggo totiggggiag goocagggag gagacacoco caacocotal agggesaggg tetetetgtt gaggagggg geetgteage caeaaettet tteeteetga gegeeceate teetetetg CWQKGHGEAM PLHRYGVGEA AVGAEAGEAT LGGGGGGGSV ASPTSSSGSS SRGTERPRSL KRGSKPSASS ASLEKRMKMV SQSFTQRFRL SRDRKVAKSL MERAPPDGPL NASGALAGDA AAAGGARGFS AAWTAVLAAL MALLIVATVL AVIVSIFGLC WAPYTLLMII RAACHGHCVP DYWYETSFWL LWANSAVNPV GNALVMLAFV ADSSLRTQNN FFLLNLAISD FLVGAFCIPL YVPYVLTGRW IFGRGLCKLW LVVDYLLCTS SAFNIVLISY DRFLSVTRAV SYRAQQGDTR RAVRKMLLVW VLAFILYGPA ILSWEYLSGG SSIPEGHCYA EFFYNWYFLI LYPLCHHSFR RAFTKLLCPQ KLKIQPHSSL EHCWK NP\_009163.1 NM 020155

Coupled Receptor

G Protein-

177387

550

Histamine H3

549

Receptor

	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
	۵.	∢	Q.	∢
gegocaacog cetggggece tigocettet ggetteteta etgetgococ gietgocige agitetteae etigaegeti algaactet actitgoca ggiggtgete aaggocaagg tgaagegteg googgagatg ageegaggget tgetegelgt ocgaggggoc titgggggg cetegetget etitetgetggggggggggggggggggggg	MESNILSGLVP AAGI VPALPP AVTLGLTAAY TTLYALLFFS VYAQLWLVLL YGHKRLSYQT VFLALCLLWA ALRTTLFSFY FRDTPRANRL GPLPFWLLYC CPVCLQFFTL TLMNLYFAQV VFKAKVKRRP EMSRGLLAVR GAFVGASLLF LLVNVLCAVL SHRRAQPWAL LLVRVLVSDS LFVICALSLA ACLCLVASGR PPLASTWRPR	cricitizaa iticiticia ggaigiteac iticiticea caatgaalga gigicactal gacaageaca iggactitit taalaalagg agcaacacig alactgicga tgactgaca ggaacaaage tigtgatigt itigtgigt gggacgitti titgocigit tattititit tetaalitici tggicateg ggacaagac aaaaacagaa aatticatit ecciliciae taccigtigg etaattiage (gctgocigal ticticgicg gaaitgocia tgattocig augitiaaca caggoccagt iticaaaaaci tigacigica aoogciggit ictocgicag gggciticigg acagigacia gactgotice cicacaaci tgctggitai egocgigaga aggocacigi caatcalgag gggciticigg acagigaciae gactgotice cicacaaca tgctggitai egocgigaga aggocacigi caatcalgag gagggicoc caacagggot gactacaaca gagggigaca cigcticatii tgctigicig ggccaicgoc attitalgg ggggicoc cacacigggot tggaattgoc tctgcaacat cictgocigo (citicociga acgigaciae) accaatgggi tacctigtii tctggacagi glocaacaci alggocitice tcatcalggi tgggtgac cictgocigo (citicociga accaatgaaga cacaatgaaga accaatgaga taccaaagagaaa accaacaggic tgtttgggigac cocatagaagaagaaaaga tggttocigo tgctgagagac accaatgaagaagaagaaagaagaaaaagaagaaaaagaaaaaa	MNECHYDKHM DFFYNRSNTD TVDDWTGTKL VIVLCVGTFF CLFIFFSNSL VIAAVIKNRK FHFPFYYLLA NLAAADFFAG IAYVFLMFNT GPVSKTLTVN RWFLRQGLLD SSLTASLTNL LVIAVERHMS IMRMRVHSNL TKKRVTLLIL LVWAIAIFMG AVPTLGWNCL CNISACSSLA PIYSRSYLVF WTVSNLMAFL IMVVVYLRIY VYVKRKTNVL SPHTSGSISR RRTPMKLMKT VMTVLGAFVV CWTPGLVVLL LDGLNCRQCG VQHVKRWFLL LALLNSVVNP IIYSYKDEDM YGTMKKMICC FSOENPERRP SRIPSTVLSR SDTGSOYIED SISQGAVCNK STS	atggecccg gegaggeget getggegggt ettetggtga tggtaetgge egtggegetg etatexaacg caetggtget getttgttge gestaeaege dgageteeg etetegage etetegage etetegage etetegage etetegage etetegage egtggegete tetegggaa tetetetg ggeaaeege tgetggege ggagaeege tgggggggggg
	NP_064540.1 or	ic NM_012152	ic NP_036284.1	AF411107
	G Protein- Coupled Receptor ORF4	Lysophosphatidic NM_012 Acid Receptor Edg7	Lysophosphatidic NP_0362; Acid Receptor Edg7	G Protein- Coupled Receptor GPR78
	177387	180956	180956	189873
	551	552		554

Homo	Homo sapiens	Homo sapiens	Homo sapiens
<u>ρ</u> ,	∢	۵.	∢
tegeogigat egeogacetic caterdate tigococale cagcagaage ggegecgoca ecgegocac aggaagatig gcatigatat teganetic cicatedgat tigococgta tigococgta tigoagetic gegegegeg agetegigoc citogicaco gigaaegeco agtgegeal ecteageag tigocigacot acagcaage ggrggoega cegtegigo actericigot egeogacoca actericigot ecgecgoca ticogecaga citogicaga caggigoca cegetigota agagaacoco gegecagea tocacocate acacegict ggagacaca gaatgatec ggcategigo acagctigot gaagagaaco egeocoaga tocacocate acacegict gtggacaca agatgatec egeotigota cagctigota agagaacoco geocoaga mGPGEALLAG LLVMVLAVAL LSNALVLLCC AYSAELRTRA SGVLLVNLSL GHLLLAALDM PFTLLGVMRG RTPSAPGACQ VIGFLDTFLA SNAALSVAAL SADQWLAVGF PLRYAGRLRP RYAGILLGCA WGQSLAFSGA ALGCSWLGYS SAFASCSLRL PPEPERPRFA AFTATLHAVG FVLPLAVLCL TSLQVHRVAR RHCQRMDTVT MKALALLADL HPSVRQRCLI QQKRRRHRAT RKIGIAIATF LICFAPYVMT RLAELVPFVT VNAQWGILSK CLTYSKAVAD PFTYSLLRRP FRQVLAGMVH RLLKRTPRPA STHNGS VDTENDSCLQ QTH	alggaaaac ticagaaigc ticctggatc taccagcaga aactagaaga tecaticcag aaacaccga acagcaccga ggaglatictg gocilicitet goggaccicg gogcagocac ticticotic cogigicity ggigatigg coatititig lightggggg cattegraat gioctggggat trigoagcac caggictaga agacgoccac cactactac citicagoc tiggoggat trigoagcac caggictaga agacgoccac cactactac citicagoc tiggoggatic tiggoaggat trigoagcac caggictaga agacgoccac cactactac citicagoc tiggoggatic tiggoaggat trigoagcac caggictaga goccititity agaccgitig citicgoctoc ateritoagca cocitititig tiggoggatic citicagas goccititity agaccgitig citicgoctoc ateritoagca traccaccga caggictaga goccititity agaccgitig citicgoctoc ateritoagca traccaccga caggictoc tiggoccac tiggogcac cacaccago atecatigaca teagtica caggitica caggitica caggitica tracagocat gitiggatica caggitica caggitica caggitica tocatiga atecatica antiticaca adaticaga acaticatact acticatiga acaticaga agagitica acaticaga tigagiticaga ticticacatiti acctgagca citicagatiti giticagac citicaga acaticaga coccatitica ataccaca giticaccata citicagaa citicaga citicagaa citicagaa citicagaa citicagaa citicagaa citicagaa cagaitica agaacaaca acaticaca acagaigca acagaitica cagaaagca caacagaca cititagaa acagaitica agaacaaca acagacaa acagacaa acagacaaca acagacaca acagacacaca acagacacaca acagacacacac	MEKĪĢNASWI YQQKLEDPFQ KHLNSTEEYL AFLCGPRRSH FFLPVSVVYV PĮFVVGVIGN VLVCLVILQH QAMKTPTNYY LFSLAVSDLL VLLLGMPLEV YEMWRNYPFL FGPVGCYFKT ALFETVCFAS ILSITTVSVE RYVAILHPFR AKLQSTRRRA LRILGIVWGF SVLFSLPNTS IHGIKFHYFP NGSLVPGSAT CTVIKPMWIY NFIIQVTSFL FYLLPMTVIS VLYYLMALRL KKDKSLEADE GNANIQRPCR KSVNKMLFVL VLVFAICWAP FHIDRLFFSF VEEWSESLAA VFNLVHVVSG VFFYLSSAVN PIIYNLLSRR FQAAFQNVIS SFHKQWHSQH DPQLPPAQRN IFLTECHFVE LTEDIGPQFP CQSSMHNSHL PTALSSEQMS RTNYQSFHFN KT	atgotggoag etgecttige agactetaae tecagoagea tgaatgtgte ettigeteae etecaettig eeggaggga eetgeeetet. A gatteocagg aetggagaae cateateocg getetettigg tggetgtetg eetggtggge ttegtgggaa aeetgtgtgt
CAC34041.1	NM_020167	NP_064552.1	LG94108
G Protein- Coupled Receptor GPR78	Neuromedin U Receptor 2	Neuromedin U Receptor 2	G Protein- Coupled Receptor
189873	189874	189874	189884
\$55	556	557	558

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	Homo sapiens	Homo sapiens	Ношо
	<u>a.</u>	∢	<b>a</b>
gattggcato cicciticaca atgotiggaa aggaaagoca iccatgatic actootigat ictgaaicic agoctggctg aictciooti octgotgiti titgcacca tocagacae gegatactic aaaagtgiti gggatciagg ciggitigic tgcaagtoci cogactgiti titgcaccae tocagacae gecatactic aaaagtgiti gggatciaggi catgitigic tgcaagtoci catgatigi tatoocaag coaagacae gacaatcgit grggggoca aagtatgotil catgitigica aggtatococag coaagacaagt gagtatagoti tatoocaag gagtatocaa catcaagacat catgaaggit tggaaatgit octgtggat gaccagctig tatoocag tggctgaaga gattatagaa aaaagaggaa agctacoca actootggca iliggoctic catatitii igccagctit taticagaa aggctaagaa coaatgaaa aaaagagaa accaatgaaa aaccagaata gagatatga tggaaatgig cigtgggat ggcaatgoca agtcacagga agctacagaa accaatgaaa aaaagagaa catatagactig ciccogaata gagactiga tggaagtig cgtggggat ggcaatgoca catcatgici tataagtot tgatgattic calcottica gcaaalcci tcattitici tggatgicg gaaagagtica ggaaaggiti ataaaagga tgataaccaa aaaacctoca actgictcaa agtcaagga aaacacaagt gaaaacaaga agcacaagaa aaacacaaga gaaaaagaa aaacaagaga aaaccaaga ggaaatgaa tgataaccaa aaaacctoca actgictcaa agttitigg. catgaagaga aaacaagac tocciocic ggaaaaggaa aaactgaaaa agcaagaaa gaaaagaaa aaacaagaa aaccaaga gaaaaagaaaacaaga gaaaaagaaa aaaacaagaa aaaacaagaa aaaacaagaa aaaaaagaaaaaagaa aaaacaagaa aaaacaagaa aaaaaagaaaaagaaaacaagaaaacaagaaaacaagaaaacaagaaaaagaaaacaagaaaacaagaaaacaagaaaacaagaaaacaagaaaacaagaaaacaagaaaacaagaaaaagaaaacaagaaaacaagaaaaagaaaacaagaaaacaagaaaaagaaaaaa	MLAAAFADSN SSSMNVSFAH LHFAGGYLPS DSQDWRTIIP ALLVAVCLVG FVGNLCVIGI LLHNAWKGKP SMIHSLILNL SLADLSLLLF SAPIRATAYS KSVWDLGWFV CKSSDWFIHT CMAAKSLTIV VVAKVCFMYA SDPAKQVSIH NYTIWSVLVA IWTVASLLPL PEWFFSTIRH HEGVEMCLVD VPAVAEEFMS MFGKLYPLLA FGLPLFFASF YFWRAYDQCK KRGTKTQNLR NQIRSKQVTV MILSIAIISA LLWLPEWVAW LWVWHLKAAG PAPPQGFIAL SQVLMFSISS ANPLIFLVMS EEFREGLKGV WKWMITKKPP TVSESQETPA GNSEGLPDKV PSPESPASIP EKEKPSSPSS GKGKTEKAEI PILPDVEQFW HERDTVPSVQ DNDPIPWEHE DOETGEGV	alignatical caccatom coaticate aggaacteri coacttigge pagggicot caaacooog glooticac igocatigge glooglage glooglade ggatgitical toggaaltig tggootici citicatgate cigctggaci ggatgitigat tggooglagi tggooglagi tggooglagi tggooglagi tggooglagi tggooglagi tggoocic gaaaattig citicatgate cigctggaci gocatgate gocatgate cagoocic gaaaattig citicatac caccitigacoa gocatcago tggooglagi tagoocica tgoocatga tggoocic algorica agoocigoc tettigacoa caccitigate gettigagaci gottigaga citicataca cactitigate gattigagaci tagoocaca catgocata tagoocica gaggitica tagoocaca actgiticat tagoocaca catgiticaga cacagitica agggiticat gagagaga cacacaga cacagitica aggoocica tattigaga aggiticat gagagaaga gacococaga actiticaga attigaga aggiticat gagagaga gacococaga actiticaga attigocaga titigagaga acacocoga accocaca actgiticaga aggiticaga aggiticata gagagaga cacacacaca actgiticaga aggiticaga agoocica cagitigaga acacocoga acacacaca actgiticaga agacacaga attigocaga titigacaca titigagaga acacocoga acacacaca actgiticaga agacacaga agoocica agacagaga acacococaga acacacaca actatitata tacticaga accatatata gocagagaga acacocoga agoocaca titigacaca titicataca actatitata tacticaca actatitat gaacacacaca actatitat tacticaga caagagaga acacacacaca tactiticaa actatitata tacaticaga acagagaga acacacacaca tactiticaa actatitata tacticaga actagagaga cacacacaca tactiticaa agacagata caagagaga gagacacaa tactiticaa agacagata caagagaga agacacaa agagatiga tactiticaaa acciticata agacococaa acagacocaa tacagagaga acacacacaa acagaticat gadaticaaa accaticaaa acataticaa accatatata acacacacaa acagacocaa agaagagaga acacacacaa acagacacaa acagacocaa acagacocaa agaagagaga acatacagaa agaatitat gadaticaaa	MESSPIPQSS GNSSTLGRVP QTPGPSTASG VPEVGLRDVA SESVALFFML
•	ENSMPRT1140 67	NM_031936	NP_114142.1
Ls189884	G Protein-Coupled Receptor Ls189884	G Protein-Coupled Receptor	G Protein-
	189884	189895	189895
	559	999	199

sapiens	Homo sapiens	Homo sapiens	Homo sapiens
	∢	<u>r</u>	∢
LLDLTAVAGN AAVMAVIAKT PALRKFVFVF HLCLVDLLAA LTLMPLAMLS SPALFDHALF GEVACRLYLF LSVCFVSLAI LSVSAINVER YYYVVHPMRY EVRMTLGLVA SVLVGVWVKA LAMASVPVLG RVSWEEGAPS VPPHCSLQWS HSAYCQLFVV VFAULP LLLILLVYCS MFRVARVAAM PDGPLPTWME TPRQRSESLS SRSTMVTSSG APQTTPHRTF GGGKAAVVLL AVGGQFLLCW LPYFSFHLYV ALSAQPISTG QVESVVTWIG YFCFTSNPFF YGCLNRQIRG ELSKQFVCFF KPAPEEELRL PSREGSIEEN FLQFLQGTGC PSESWVSRPL PSPKQEPAV DFRIOAR	ategagices getigities goegegoes gigagogag teategiori geattacaac tacaceggea agotoegegg tegegotac cagooggegi oxggotige egocatect geography egocatect groups gigagogagoca coorgange tiggigigo tiggiggig egocatect gigagogag atetagogag atetagogag tegegotig egocatect gigagogag atetagogag atetagogag tiggigigig egocatect gigagogag cotacegtig teggategoca gocatectoca gigagogag cotacegtig teggategoca gocatectoca gigagogaga cotacegtig tegagotiga egocatectoca gigagogaga goctacegoca gocatectoca gigagogaga goctacegoca gocatectoca gigagogaga goctacegoca gigagogaga egocatectoca gigagogaga egotacegoca aggocategoca tegagogaga attgoctigga tegagogaga egotagoca aggocategoca aggocategoca aggocategoca aggocategoca gocatectoca gigagogaga attgoctigga tocategoca aggocategoca aggocategocateca aggocateca aggocateca aggocategoca aggocategoca aggocategocateca aggocateca aggocategoca aggocateca ag	MESGILRPAP VSEVIVLHYN YTGKLRGARY OPGAGIRADA VVCLAVCAFI VLENLAVLLV LGRHPRFHAP MFLLLGSLTL SDLLAGAAYA ANILLSGPLT LKLSPALWFA REGGVFVALT ASVLSLLAIA LERSLTMARR GPAPVSSRGR TLAMAAAAWG VSLLLGLLPA LGWNCLGRLD ACSTVLPLYA KAYVLFCVLA FVGILAAICA LYARIYCQVR ANARRLPARP GTAGTTSTRA RRKPRSLALL RTLSVVLLAF VACWGPLFLL LLLDVACPAR TCPVLLQADP FLGLAMANSL LNPITYTLTN RDLRHALLRL VCCGRHSCGR DPSGSQQSAS AAEASGGLRR CLPPGLDGSF SGSERSSPOR DGLDTSGSTG SPGAPTAART LVSEPAAD	gitpaggeac egitgetigg extigitoct ecaggocaga gegeggaage cettacooo acagegetige agoodigag ciggooctca geodiggag gastetica titocagaaga gacticgoc tigcactitica gettecetat ggoctoogoc ticocagaa gastetica gettecetat ggoctoogoc ticocagaa gastetica gastetica gettecetat ggoctoogoc ticocagaa gastetiga gasteti
	NM_030760	NP_110387.1	LG94029
Coupled Receptor GPR61	Sphingolipid Receptor Edg8.	Sphingolipid Receptor Edg8	G Protein- Coupled Receptor Ls189901 (HEOAD54)
	006681	189900	189901
	295	563	964

Homo	Homo		Homo sapiens	Homo sapiens
<b>Q</b> .	∢		۵,	∢
ggocacceg geagcigcoc ccaeggaage aeggcicage aegtggiggg geigcaccae citcaggiag eggtgagig eggtggetg gegaggetg gegaggetg aegaggigg eggtgaggeg gegaggetg eggiggetgg eggtgaggeg gegaggeggeggeggeggeggigggigg gegaggegggaggaggaggaggaggaggaggaggaggagg	KAEAIGKLKV QGEVSLEKEG SSQG ggtatiggt taactcagca gaattigtg aacaactacg acatgctggg gatcatggca tggaatgcaa cttgcaaaaa ctggctggca gcagaggctg coctggaaaa gtactacctt tocattiitt atgggattga gttcgttgfg ggagtcttg gaaataccat tgttgtttac ggctacatct tctctctgaa gaactggaac agcagaaaa titatctt taacctctc gtclctgac tagcttttct gtgcacoctc cocatgctga taaggagtta tgccaatgga aactggatal atggagacgt gctctgcata agcaacogat atgtgcttca tgccaacctc tataccagca ttctttct cactittatc agcatagatc gatactgat aattaagtat ccittccgag aacaccttct gcaaaagaaa gagtttgcta ttttaatctc cttggccatt tgggttttag taaccttaga gttactacoc alacttooc	italaaatoc igitaiaaci gacaaiggca ocaocigiaa igaittigca agitoiggag acoccaacia caaocicati tacagcatgi gicaacaci gitggggtic citaitoci tittiggai gigiticiti taltacaaga tigcicicti cctaaagcag aggaalaggc aggitigciac igcicigoo citgaaaagc cicicaacit ggicaicaig gcagtggaa toticicigi gcittitaca occiaicacg tcaigcggaa tggaggaic gcitcacgoc iggggagtig gaagcagtal cagigcacic aggicgicai caacicciti tacaitgga cacggcitti ggociticig aacagigica icaacocigi citicatiti cittigggag alcacticag ggacatgcg aigaatcaac tgagacacaa citcaaaloc citacaicci tagcagaig ggociaigaa ciocactii caitcagaga aaagtgaggg gitiggaaa cagaitgtic tacagaigaa icigaaagca agtacagti igocitaaci caitgaacaca aaagtgaggg gitiggaaa cagaitgtic tacagaigaa idgaagcc agtacagti igocitaaci caitgaagaa aaagtgaggg titaccagai taaocitga ichaaagaca agtigaoco agaaataga aaaagaagga gacgacaaga atgactggt ticticotci aagaaitgaa agaagtgaa cigocitaig titiggcaig taatcacaa atactagga galaaagagi tictcaatca gigcaaaaaa ggaagataa.	MAWNATCKNW LAAEAALEKY YLSIFYGIEF VVGVLGNTIV VYGYIFSLKN MAWNATCKNW LAAEAALEKY YLSIFYGIEF VVGVLGNTIV VYGYIFSLKN WNSSNIYLFN LSVSDLAFLC TLPMLIRSYA NGNWIYGDVL CISNRYVLHA NLYTSILFLT FISIDRYLII KYPFREHLLQ KKEFAILISL AIWVLVTLEL LPILPLINPV ITDNGTTCND FASSGDPNYN LIYSMCLTLL GFLIPLFVMC FFYYKIALFL KQRNRQVATA LPLEKPLNLV IMAVVIFSVL FTPYHVMRNV RIASRLGSWK QYQCTQVVIN SFYIVTRPLA FLNSVINPVF YFLLGDHFRD MLMNQLRHNF KSI TISFSRWA HFLI LSFREK	iggagocaig otocotggge tottocgegg gegocogege gotgeootte gettgaggea aaaggactet tgtggaagat ggaacteatt gtocaittie cagaatgtat ttocaagooc alcaatggga octgatactg otgttotgtg itgaaatget tgaagaacte eigeatetet gettgeatet tecatoctae tgaaaocatg gtettetegg cagtgttgae tgegttocat acegggacat ecaacacaae
CAC38933.1	NM_033050		NP_149039.1	NM_030784
G Protein- Coupled Receptor Ls189901 (HEOAD54)	Purinergic Receptor P2U2 (GPR91)		Purinergic Receptor P2U2 (GPR91)	G Protein- Coupled Receptor GPR63 (PSP24
189901	189904		189904	189920
965	999		267	568

ntitgicgig taigaaaaca octacaigaa taitacacic cciccaccai tocagcaicc (gaccicagi ccatigcita gatatagiti

beta)

sapiens

actoggaact iggeteteag ogtateatec etgitaceag ggacaaatge aattteaaat ittageatig gtetteeaag eaataatga:

Coupled Receptor

570

569

Dj287g14.2

sapiens Homo Homo ۵, ⋖ algialgigt gigagcagig taaagaaaga alggiaatta tagitcigit accaagaala aataatagga aagigattac aaatattacc gettacca aaaagctgcc atgaggtctg caattaacat cctccttgcc agcctagctt ttgcagacat gttgcttgca gtgctgaaca KFFCRVSAMF FWLFVIEGVA ILLIISIDRF LIIVQRQDKL NPYRAKVLIA VSWATSFCVA gctgatctac tactggagga ttaagaaatt ccatgatgct tgcctggaca tgatgcctaa gtccttcaag tttttgccgc agctccctgg it cataccet icciggiaat acigiacica titaigggea tacteaacae cetteggeae aaigeetiga ggateeatag etacoetigaa ttgcttgagt catcttctga agctttaaaa acaattgatg aattggcctt caagatagac ctaaatagca catcacatgt gaatattaca ocatatagag ctaaggitct gattgcagit tcttgggcaa citcctittg tglagctitt cctitagccg taggaaaccc cgacctgcag FPLAVGNPDL QIPSRAPQCV FGYTTNPGYQ AYVILISLIS FFIPFLVILY SFMGILNTLR attengrang caettitaet atengenacan ettittigag attageneet ggetaetgig geteigetae etenagietg cattgaatee atacettece gagetececea gugugugut gggacacaa ecaatecagg etaceagget taigugatti igatitetet eattiettie ggaatcagga tigigcttta tigagcctgc agttacatig aattgtaggt gtticgtgtg ctgctaaggt atgcttattt gagtttatca taaaacacgi gooticacca clattitgai totottigot groticatig lotgotgggo oocattcacc acitacagoc tigtggcaac iccagggitc aatagaaatc ctcaattag ggtgaggaga cttttttg gttttggggt ttttccttga ttgattttgt tttcatagtg goorttigo colggiaaci attottacta coogaiggai titigggaaa tioticigia gggiatotgo taigittito iggitattig goctaaacti goototicag alcaccotii otgotalaat gataitoati otgitigigi ottiiotigg gaactiggti gitigootoa tcacacaaag cgacggalac gtcclagtgc tgtclatgtg tgtggggaac atcggacggt ggtgtgaata ttggaactgg ctgacattit gggtgatgct tgttctttat tgacattgaa ttctctttct catagcctct ccactttatt ttttttata gggtttgtgt ggratatgcc tcagocaggc cagcaaactg ggretcatga gtetgcagag acctttocag atgagcattg acatgggett gaaaccaig gctcccactg gtttgagttc cttgaccgtg aatagtacag ctgtgcccac aacaccagca gcatttaaga gatagaagg agtagccatc ctgctcatca tragcataga taggttcctt attatagtcc agaggcagga taagctaaac VVCLMVYQKA AMRSAINILL ASLAFADMLL AVLNMPFALV TILTTRWIFG YYWRIKKFHD ACLDMMPKSF KFLPQLPGHT KRRIRPSAVY VCGEHRTVV AVFIVCWAPF TTYSLVATFS KHFYYQHNFF EISTWLLWLC YLKSALNPLI agactititi titiciggaa gacactgcig cititaccai cacaitggag cc MVFSAVLTAF HTGTSNTTFV VYENTYMNIT LPPPFQHPDL SPLLRYSFET MAPTGLSSLT VNSTAVPTTP AAFKSLNLPL QITLSAIMIF ILFVSFLGNL HNALRIHSYP EGICLSQASK LGLMSLQRPF QMSIDMGFKT RAFTTILIL NP\_110411.1 AK027843 Coupled Receptor GPR63 (PSP24 G Protein-G Proteinbeta) 189920 189945

tograttice agatggatti tgagagtgga caagtggate cactggcate tgaattiig ectecaaact tacttgagaa titaagteca
gaagatictg tattagtiag aagagcacag titactiict teaacaaaac tggactiite caggatgtag gaocecaaag aaaaacitta
gtgagtiatg tgatggegtg cagtattgga aacaitacia tecagaatet gaaggateet gitcaaataa aaatcaaaca tacaagaaci
caggaagtge alcaleccat etggectie tgggatetga acaaaaacaa aagtittgga ggatggaaca egtcaggatg
tgitgcacac agagaticag atgcaagtga gacagtetge cigtgtaace acticacaca cittggagtt etgatggae
tgetgcacac agagaticag atgaagcaa gaaaacacaa agtecteact ticateagci atattgggg tggaatatet gcattittt
cagcagcaac telectgaca tatgitgcit tigagaaatt gegaagggat tatocetoca aaatettgat gaacetgage
acagccace tgitectgaa telectete etectete etectgatg getgagicac etecticaat gtggatggae titgcatige tgtgcagic
ctgttgcatt tettectiet ggcaacetti acetggatg getgagaag cattcacatg tacattget tagtaaagt attaacact
tacattegec gatacattet aaaatietge atcattgget ggggtigec tgeettagg gigleagtig tietagegag cagaaacaac
aaagaagtet atggaaaaga aagtatggg aaagaaaaag gtgatgaatt etgttggatt caagatecag teatattta tgtgacetgt

sapiens Homo

⋖ p, gtttigttoc aaggaataig aagtgagaca taigggtgag toataataat caaaataatt taigaagago tgggtotgoa atagotagto acaagggaga agcaatgctg aggaagaccc tagatagagc tcattitact ccacctaatc gitatatctg gatataccca titictgcat gcolggotoc agcagatgat gagataatga ggtagtgggt ttttfattac tgttocattt tgcaacatoc tgcaacacca tootgggaga gracaticage attgetgget ggetgateat etgeettgee tgtgractet ttecaeteet cagaaceagt gatgataeet etggeaatag දර්ලීළුවෝ රාල්ලන්වයට ආර්රාය්ද නන්පරාලියේ අධ්යන්රළ ළමුන්වෙලා පනුත්රුවාම ළමුන්දුමන් දන්නනන්න NTKVLTFISY IGCGISAIFS AATLLTYVAF EKLRRDYPSK ILMINLSTALL FLNLLFILDG saccaaatge titgtggate ttectaccag gaatgteaae etggeceagt eegitgitat gatgaccatt ggegagttga itgggtitgt actcagaitg gagtaagaca gctaccaata tcatcaagaa aagtictgat aatctaggaa aatcttigic ticaagctcc attggticca acteraceta tettacatee aaatetaaat eeagetetae eacetattte aaaaggaata geeacacaga taatgtetee tatgageatt iaaaaactac tigtigigica gicctotiggi tatagtatat aagagociga ggaggictigg caagatagat ggigtattat ttatggatca aagcagtgta aactgcaact agtgatgtaa atgtgctatt acctaggtaa ctgcatatat ataaggaatg tattttgtta agaaggcttt aacatcaatc atcoctgtoc atcaggical tgataaggic aagggitaft gcaaigcica ticagacaac tictataaaa atattatcat ggotgotgoa tacaaaoctt goatactatt atgoagotta cotaactoto agactattot gagtaatgot tgottgotaa tgaatgtata iggitatatg aaagaaacaa aacgagctgt gatatttatg ataaacttag ccattgctga cttactacaa gttctttoct tgccactgag gatettetae taettgaate atgactggee attigggeet ggtetetgea tgttetgttt etaectgaag tatgteaaea tgtatgeaag ctictiticte aacaataaae tgiccitget itggagaett taagacatti ectaaageae aaataaaage ctegtattie eccattgaga ggagaccaca tigtaatigi tottagaiga iggagiccai gcagittott agaaaloggi cicagigcai gcigigotti ticacattig catclactic tiggiciggs teagigigeg acgaittigg titeteatgt accectiteg ettecatgae tgeaaacaga aatatgaeet agaitticga tactitatti atgcagtgac atacactgic attcttgtgc caggictcat agggaatata ttagcoctgt gggtattcta igigaaatto agaattitto tittiaatat atticticca iggaagagti gicalcacta aaacticagt actgagagta acatgactca ittigeatic titgoctggg gacocitaaa tatococtic atglaccici tolocatoti caaticatta caaggottat italatica aaccggaccc tgagagaaga agtgttaagg aacctgcgca gtgtggttag cttgaccttt ctgttgggca tgacatgggg ctotgggtta totgggaagt atcaggttot gggaggcaac agcattaagt gataagaaaa ggagacatto tggcaaagco aatotgotta aaggoaaagt ocagaacotg gaacotagag goottiotot otgoacgaaa aacaggtagt tigcagtotg caccattagg caaagatagt ttetetagag agaateatge etgetaatta caegtgtace aggecagatg gagacaatae octicaacaa aagtiggaica cicagacagi gcitocaigg acaagiccit gicaaaacig goocaigcig aiggagaica cticcactgi gctalgaagg agaalgitca gaaacagigg cggcggcatc ictgctgigg tagaiticgg itagcagata greagacace ticagecaca geacaaagti tiaaigiett taagaaaag aaateaatet geagaaaigt gaagattige gtagccacag aagctatgat tigtaaaata tataatigaa tcagagtaat cataatgcag gggagacatt caaattagag agatatggga gagcttttag gctacacagc aacccaaggg acctctcacc ttttgctgag cttcaatcag gaagctattt STYLTSKSKS SSTTYFKRNS HTDNVSYEHS FNKSGSLRQC FHGQVLVKTG PC KNKSFGGWNT SGCVAHRDSD ASETVCLCNH FTHFGVLMDL PRSASOLDAR YILKFCIIGW GLPALVVSVV LASRNNNEVY GKESYGKEKG DEFCWIQDPV FYVTCAGYF GVMFFLNIAM FIVVMVQICG RNGKRSNRTL REEVLRNLRS caagagcatt acccagctig gctitcacgg gggagggitg taticagt MDFESGQVDP LASVILPPNL LENLSPEDSV LVRRAQFTFF NKTGLFQDVG PQRKTLVSYV MACSIGNITI QNLKDPVQIK IKHTRTQEVH HPICAFWDLN NVOKOWRRHL CCGRFRLADN SDWSKTATNI IKKSSDNLGK SLSSSSIGSN WITSFNVDGL CIAVAVLLHF FLLATFTWMG LEAHMYIAL VKVFNTYIRR VVSLTFLLGM TWGFAFFAWG PLNIPFMYLF SIFNSLQGLF IFIFHCAMKE NIM\_032553

BAB55406

Coupled Receptor

G Protein-

189945

571

Dj287g14.2

Coupled Receptor

G Protein-

Homo

tittaatica tectatecaa ttatetatti titettette tietatitta tittatitie attietatea cittegaaga eegtateatt tiaccatica

agaaaaigga citcagatag atcaacctcc tgaaatagga aacatctcca ttgttcgcat cataataaig aaaaaigata

atticaggaa aaagagaata tittagcgtt gaggatettt aaaagtattg cagtaetta tagaaetaag ttgtaggage taagaggate

cattgoccaa gtttagtaac tttatattag ttttggctto gtacaggcac cactcattgg gagcaacaca gaaatctgtt tcaaaacato

**AF055084** 

Coupled Receptor

VLGR1

G Protein-

90031

574

sapiens

Homo

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aactoogott otgattgtoo tatattgtao otggaagaog gittiatoao tgoaagataa atatoocaig goocaagato ttggagagaa atgictigac ocagicatat actactitic cactaalgag tiocgaagac ggotticaag acaagatitig catgacagca tocaactoca PLDFLVKSNE IKSCLARRVI LIFHSVALCL ASLNSCLDPV IYYFSTNEFR RRLSRQDLHD ggigaagtoc aatgaaatta aaagotgoci agocagaagg gigattotaa tatticatto tgiggcatig igictigota giotgaatto agticigoto taicitacig cialggggaa iloacitoti caaagcagga ociatifigga goattacgai ocacgattai igaigilgac acagaaagoc ilgaagaiga itchaacotg igcaggggta itcctaatit gcittgcacc italcatitc agitticcti tagatticci attactgrat atgratgrat tcagccgrga troccaaagg treattitat gacagcatct trotgattic creacagtit attatctice gacotgagai geaaglacat cagaacatat ctgcaatacc caagccacag ggaagaactt gcaaaacaac acagcttttc igeaaaatee tttgtgagta aecatacage ttecaceatg aeaectgaat tatgetaaaa eaaaaaaeea aaetgaatgt VLYCTWKTVL SLQDKYPMAQ DLGEKQKALK MILTCAGVFL ICFAPYHFSF MPANYTCTRP DGDNTDFRYF IYAVTYTVIL VPGLIGNILA LWVFYGYMKE TKRAVIFMIN LAIADLLQVL SLPLRIFYYL NHDWPFGPGL CMFCFYLKYV NMY ASIYFLV CISVRRFWFL MYPFRFHDCK QKYDLYISIA GWLIICLACV LFPLLRTSDD TSGNRTKCFV DLPTRNVNLA QSVVMMTIGE LIGFVTPLLI SIQLHAKSFV SNHTASTMTP ELC atgrecatgt agtaattttt etteaagt NP\_115942.1 Coupled Receptor G Protein-

573

gtegicaaag ategtgocac atataaagig gacgtggtgc caataaagaa tcaggictic ctaicactgg gcictaatit cactifgcaa ngaggcacat atggagctct ctcggttgcc tggaccactg gatatgctcc tgggttagaa attcctgaat tcattgttgt tggcaacatg agagagigaa getagettig atgiteatit getaceagat gaggiacotg agatagga agattatgig atceagetig titetgiaga gactocagag ctaaagaigt tacattaacc atacaagagt ttggtgaccc aaaiggagit giicagtiig ctoctgaaac ttigictaag occigiante ggaregocag teaatactta ttgggcagaa cettattaga tecatecaaa ttaacataae ceggettget ggaacattig ctggtgactg tgatgcttgt cggtggacgt ttctatggaa tgocaacaat tcttcaggaa gcaaaatctg ctgtocttoc agictctgag aaagctgoca attoteaggt eggatttgaa toeactgett tteaacteat gaacateact getggeacaa gocaegttat gatttetagg gtggtgagge tacatggaae ttatggetat gtgacagetg atticatete leagagetee tetgeeagte eeggaggigt tgattaeatt itgeatggea gracagicae citteageat gggeaaaact taagttitat aaatatetee ateattgatg acaatgaaag tgaatttgag ataattotga caatotatoo toatgaagaa attgaagttg aagagacatt cattattaaa ottootottg tgaaaggaga agotaaatta agagaitaig gittaciggg aaitaagtag igagitigac attacigaag actitctiic caccagigga itticacca tigcigaigg aagagigac telecettig gagitataag gitteteaat caaageaaaa titetatige taateeeaat teeacaatga tittateaet ggtgctggag cggactggag gactcttggg agagattcag gtgaactggg agacagtagg accaactct caagaagcot tactgecaca gaatagagae attgeagaee cagtgagegg gttgttetat titggagaag gagaaggagg agtgagaaee gagatgtege tetteggedt egaatateat eggateataa agaacageeg attettaceg aaaatgeaga gaggeagetg gagcocattg aaattctact cactggagct actggaggag cggtccttgg gcgccaccta gtgagcagaa tcataatagc acgcagaagg catcattgaa titgacccaa agtatactgc citcgaagtg gaggaagatg ttgggctgat catgatccca gggaggagcc gaactggatc tggagaagag tatcacatgg tictcfgttt atgcaaatga tgacccacat ggagtatttg seccaacae tggggageet treattitee caeggtgaac aaaggaaagg agtitteetg tggaegtite etageeetgg aagacttatt cagagcctct ggctctggaa gggccctgc tcattacctt ctttgtcaga agagtcaagg gcacctttgg

agtigaagaa gaagactitig aagaacaaac tcttaccctt ataitcctag alggagaaag agaacgtaaa gtalcagtic aaaittigga tgatgatgag cctgaggggc aggaattctt ctacgtgtit ctcacaaacc ctcaaggggg agcacagatt gtggagggga agaitogcac agaitaaaai citagaaagi gaigaaicic aaagocitgi giatittici gigggiicic ggciggcagi ggcicacaag aaggocacti taaicagict gcaggiggcc agagaitog ggacaggaci aatgaigici gitaactita gtaoccagga gtigaggagi gcigaaacaa tiggicgac calcalaici ccagciatti ciggaaagga titigtgata actgaaggca cattggicti igaaociggc cagagaggca cigattggicta acgocagaga titigtgata cagaaggca cattggicti igaaociggc cagagaggca cigattggi tgicatocta acgocagaga caggaictti aaattcatti ccaaaacgci tocagaitgt atteagteae titgetgaag tgactgagaa tittgeetti tetetgetga etaatgitae tigeggetet eetgggaaa aaageaaaae cateettgai agugoccai attigteaat attggetett eactggiate eteageaaat eaatggacae aagtitgaag gaaaggaagg ticactgoag cictigitoc itigacgigo cicgiggigg igiticgiggi giticalocal goctacoagg igaagocaca giggaaagoa iatgaigaig icticagagg aaggacaaat gotgoagaaa tiocactgai ittataicic itigototga ititogigao atggottitgg aggatgatac tggatttgca gcttttgcca tggttattat tacagggagt gaccttcaca atggcatcal aggattcagt gaggagtcc igigicicci tiggaaicag gcigcigcaa gciggitgic igacagicag titigcaaag igatigagga aacigcagac talgiggaal itggccagag gcctitgtic ticacctatc aggagtgcag agcagtgctc ciggcggagc tcaactccga tcaggtitca tigtigciga aattgaacca atgggegtet tecaatttte cactagetea agaaatatea tagtgteaga agatacaeag atgateagat tacatgtaea aagactattt gggttocaca gegatettat taaagtttet tateagacca etgeaggaag egecaageca etggaagatt ttgageetgt gttgcagtg attacaatat iggataatga tgacctggca ggaatggata tttccttccc cgagacaact gtggctgtag cagttgacac iggtigocai igitacigag gcaaciggig taictgecai eccigagaaa citgicaece ticaiggeae accigcigig tetgaaaage cigaigigge cacigiaaci gecaaigiti ecaiteaigg aacaiteage citgggecai ecaitgitta laitgaagag gagaigaaga agattacatt cgaattocag agaggctact ggatgtocag gatgcagaaa taatggctgg gaaaagtaca tgtaaattag tocagtttac agagtatagc agccaacagt ggttataag tggaaacaat cttoctacoc taaaaaataa ggtattatct ttgagtgtga aaggicagag ticacaacte cigactaalg acaatgaggi tetetacagg attiatgetg cigagectag aattatied cagacatete aaaaattcaa gottteagig tigecageeg aactetitte tatgagatte titgitetet tattaaeeea aagegeaagg acactagggg gciaiggcig cigicacaca itaccigiai citigocagi tiagciggai gcicalicag icigigaati iciggiacgi gciggigaig aatgatgagc acacagagag gcgatatcig ctgittiticc ttctgagttg gggactacca gcttttgtgg tgattctcct catagitatt tgaaaggaa totatoatoa gagoatgtoa cagalotatg gactoattoa tggtgacotg tgttttatto caaaogtota tgotgotttg reagaatggg gaactgittt ticaaaaatt ccaaactgag gttgatittg aaataaccat tattaatgat cagctitctg agalagaaga grectette acacatetet greatete tetatetee gactgacaae tretetteat acaatgaage ettetteaet tetegattia tatetatete tegetette titeceatat ettetetee aggractee tetteseage taaaettete acteacatga attittica attaaccita citcagiaga aattagggga tiacaaaagi tigatgitaa tiggagccca cgccigaatc lagatticag agcatgaaag tggccacaga aaacacagat gaacaactca gtgccatgat gcatctaata gaaaagataa ctactgaagg gaagatgica aggictitig gegagicaca citaacaaaa cagicgicgi geiccagaag gaiggggiaa accigaigga agagiggact agaactcagg gaaggagctg ttatgagaag attgcacctt attgtcacaa gacagccaaa cagggccttt aacteteatt eetgtagaaa etgaateeae eacataeete ageacaagea agaegaetae eattetgeag eeaaceaaeg ggaacticag icigigicag ggaccacaac cigiacaaig ggicaaacaa aaigciitai cagcailgaa cicaaaccag ggcagccag citaggiaca cagaitctgt tictggcgtc tgcatacgca agiccocaac icgcigagga gagcigtica cgcaggccat ttgggggctt gcagalcagc tacalcagcc tgtgaatgat gatattctca acagagtgct ccataccatc ana agrantico a caggitgaa gigtattiti tigtiggaact ataigaagci actgciggag cagcaataaa caacagtigo atggcacatt caacactgca gaagttctta tccgaagaac tggtgggtt actggcaatg tcagcataac agttaaaact iteggigaaa gaigigetea gaiggaacea aaigeatige eetitegigg laictaiggg alliceaace taacaiggge octititigae ceaaaaggig gigecagaai igataaagig taigggacig eeaacaicae ietigicica gaigeagait

Homo sapiens

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MQLCIFCCCC ILFYFDLYDF GRGYDFTIQE NGLQIDQPPE IGNISIVRII IMKNDNAEGI

AAD55586.1

G Protein-Coupled Receptor

190031

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ggaggactac acatggocta cagacactto tggatgtigg ttottitig caititicaac agtotgcagg gactitaigt titicatigti taticatii tacacaacca aatgtitgo octaigaagg ocagitacac tgtggaaatg aatgggcato otggacocag cacagotti ticaegooog ggagtggaa goctocigot ggaggggaaa tcagcagat cacocagaat cicatoggtg ctaitggagga gggocacct gactgggaga gagcaccti ocaacagggc agtcaggoca gocotgatit aaagocaagt cacaaaatg gaggocaccti ocatggaga gagcaccti ocaacagggc actgatagoca gatgaggagt ocaggagt tgatgatita ataitigcat taaaaactgg tgotggicto agtgicagtg ataatgaato tggtcaaggc accagaagt tgatgatita ataitigcat taaaaactgg tgotggicto agtgicagtg ataatgaato tggtcaaggc accagaagg gaggocacti gacagaagg gagacocati gaatagaac catagaaga gaggacocti agtaatacacactii cataitigta tcagctitig tgotaaaact cictaagtac atocacctgi gaataggaa cctgtgaati glactggatg attaataacaa acgtgatigt tgiattigga gaataaaata ctgattati taatcatoc tatatggcta acattgitia atgaaagtaa taatcaataa agcaatagaa tct

KLDSRAKDVT LTIQEFGDPN GVVQFAPETL SKKTYSEPLA LEGPLLITFF VRRVKGTFGE IMVYWELSSE FDITEDFLST SGFFTIADGE SEASFDVHLL PDEVPEIEED YVIOLVSVEG GAELDLEKSI TWFSVY ANDD PHGVFALYSD ROSILIGONL IRSIQINITR LRSGFIVAEI EPMGVFQFST SSRNIIVSED TQMIRLHVQR LFGFHSDLIK VSYQTTAGSA SPRLNLDFSV AVITILDNDD LAGMDISFPE TTVAVAVDTT LIPVETESTT YLSTSKTTTI KPLEDFEPVQ NGELFFQKFQ TEVDFEITII NDQLSEIEEF FYINLTSVEI RGLQKFDVNW LEKITTEGK IQAFSVASRT LFYEILCSLI NPKRKDTRGF SHFAEVTENF AFSLLTNVTC NSQEALLPON RDIADPVSGL FYFGEGEGGV RTILLTIYPH EFIEVEETFI IKLHLVKGEA YILHGSTVTF QHGQNLSFIN ISIIDDNESE FEEPIEILLT GATGGAVLGR HLVSRIIIAK VSDADSOAIW GLADOLHOPV NDDILNRVLH TISMKVATEN TDEOLSAMMH LAGTFGDVAV GLRISSDHKE QPIVTENAER QLVVKDGATY KVDVVPIKNQ VFLSLGSNFT LQLVTVMLVG GRFYGMPTIL QEAKSAVLPV SEKAANSQVG NMTPTLGSLS FSHGEQRKGV FLWTFPSPGW PEAFVLHLSG VQSSAPGGAO FSEESOSGLE LREGAVMRRL HLIVTROPNR AFEDVKVFWR VTLNKTVVVI /QDAEIMAGK STCKL VQFTE YSSQQWFISG NNLPTLKNKV LSLSVKGQSS OKDGVNLMEE LOSVSGTTTC TMGQTKCFIS IELKPEKVPQ VEVYFFVELY FESTAFQLMN ITAGTSHVMI SRRGTYGALS VAWITGYAPG LEIPEFIVVG LQPTNVVAIV TEATGVSAIP EKLVTLHGTP AVSEKPDVAT VTANVSIHGT DEPEGQEFFY VFLTNPQGGA QIVEGKDDTG FAAFAMVIIT GSDLHNGIIG FSLGPSIVYI EEEMKNGTFN TAEVLIRRTG GFTGNVSITV KTFGERCAQM **ZELTNDNEVL YRIYAAEPRI IPQTSECLEW NQAAASWESD SQFCKVIEET** EATAGAAINN SARFAQIKIL ESDESQSLVY FSVGSRLAVA HKKATLISLQ EFDPKYTAF EVEEDVGLIM IPVVRLHGTY GYVTADFISQ SSSASPGGVD EPNALPFRGI YGISNLTWAV EEEDFEEOTL TLIFLDGERE RKVSVOILDD GSPGEKSKTI LDSCPYLSIL ALHWYPQQIN GHKFEGKEGD YTRIPERLLD SDSPFGVIRF LNQSKISIAN PNSTMILSLV LERTGGLLGE IQVNWETVGP VARDSGTGLM MSVNFSTQEL RSAETIGRTI ISPAISGKDF VITEGTLVFE PGORSTVLDV ILTPETGSLN SFPKRFOIVL FDPKGGARID KVYGTANITL

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ADYVECACSH MSVYAVYART DNLSSYNEAF FTSGFICISG LCLAVLSHIF CARYSMFAAK LLTHMMAASL GTQILFLASA YASPQLAEES CSAMAAVTHY LYLCQFSWML IQSVNFWYVL VMNDEHTERR YLLFFLLSWG LPAFVVULLI VILKGIYHQS MSQIYGLIHG DLCFPNVYA ALFTAALVPL TCLVVVFVVF IHAYQVKPQW KAYDDVFRGR TNAAEIPLIL YLFALISVTW LWGGLHMAYR HFWMLVLFVI FNSLQGLYVF MVYFILHNQM CCPMKASYTV EMNGHPGPST AFFTPGSGMP PAGGEISKST QNLIGAMEEV PPDWERASFQ QGSQASPDLK PSPQNGATFP SSGGYGQGSL IADEESQEFD DLIFALKTGA GLSVSDNESG OGSOEGGTLT DSQIVELRRI PIADTHL	aigratical trategoage alocatatic accacatat tiggoaatot teocatgata attiocatti cototicaa goagoticac accacaca actiocical cotocategoage attiocome goagoticac goagoticac acacacaca actiocical cotocategoage goagoticac goagoticaca acacacaca actiocical cotocategoage goagoticaca acacacata trategogo gagaacego goagoticacata trategoage trategoage chagoaage categorica trategoage actional approach activatic caccacata actionage gaggaalage atticactic categorica goagoticacego trategoage actiticage gocategoage activation accagacata acgocacaca activategoage activategoage activategoage accategoage activate accategoage accategoage activategoage activategoage activategoage activategoage accategoage accategoage accategoage accategoage accategoage activategoage activategoage activategoage accategoage a	MYSFMAGSIF ITTEGNLAMI ISISYFKQLH TPTNFLLISM AITDFLLGFT IMPYSMIRSV ENCWYFGLTF CKIYYSFDLM LSITSIFHLC SVAIDRFYAI CYPLLYSTKI TIPVIKRLLL LCWSVPGAFA FGAVFSEAYA DGIEGYDILV ACSSSCPVMF NKLWGTTLFM AGFFTPGSMM VGIYGKIFAV SRKHAHAINN LRENQNNQVK KDKKAAKTLG IVIGVFLLCW FPCFFTILLD PFLNFSTPVV LFDALTWFGY FNSTCNPLIY GFFYPWFRRALKYILLGKIF SSCFHNTILC MOKESE	atggalctaa citalaticc cgaagaccia locagitigic caaaattigt aaataagate ciglocicce accaaccgot citticatigi ccaggiggata atgaiticgg tialgactgg agccatgait alocaciati cggaaactig gitalaatgg titocalate gcaitteaaa cagcilcact citocacaaa citictgale citocatgg caaccacgga citictgcig gigittigica tiatgccata cagcalaatg cgalcagtgg agagticgg galtiggca tiatgccata cagcalaatg cgalcagtgg agagticgg galtiggca tiatgccata cagcalaatg caccicgit catiggita tgacgatti tatgccgtg gitaacctit acattacaca accaaaatga cgaactccac cataaagcaa caccicggit catiggita tatgcggt citititita tiggtiaag tiatchgag gocgalgtit caggatgca cgaactccac cataaagcaa atactigtig citigctica atticggc citiattica accaatiticg ggggacaata tigtcacta catgatact accodagc contactica acaaaatticg ggggacaata tigtcacaa accaaaggggg gcagtgaaaaaaaaag gacaggaaaa caccaagca tgcccagata acaccaaggg tigtictggc ctigtitic tigctigtit caaagaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa	MDLTYTFEDL SSCPKFVNKI LSSHQPLFSC PGDNVFGYDW SHDYPLFGNL VIMVSISHFK QLHSPTNFLI LSMATTDFLL GFVIMPYSIM RSVESCWYFG
	NM_014626	NP_055441.1	NM_014627	NP_055442.1
	G Protein- Coupled Receptor GPR58	G Protein- Coupled Receptor GPR58	G Protein- Coupled Receptor GPR57	G Protein- Coupled Receptor
	190168	190168	190170	190170
	576	773	578	579

gettgleagg gggtggegge titleageect etggettgge etitgettea eaegtglaaa tateecteec eattettete tteeedete

sapiens

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gecactgeca ggaggaegge ateatgetgt etgeegaetg etetgagete gggetgteeg eegtteeggg ggaeetggae

NSTCNPLIHG FFNPWFQKAF KYIVSGKIFS SHSETANLFP EAH

LLAFCWSVPA LFSFGLVLSE ADVSGMQSYK ILVACFNFCA LTFNKFWGTI DRKAAKTLGI VMGVFLACWL PCFLAVLIDP YLDYSTPILI LDLLVWLRYF

OGFCKFHITSF DMMLRLTSIF HLCSIAIDRF YAVCYPLHYT TKMINSTIKO LFTTCFFTPG SIMVGIYGKI FIVSKQHARV ISHVPENTKG AVKKHLSKKK

itytgglagg igcgatigca ggcgocaaca cottgacigg cattiocigi ggcotictag cotcagicga igcocigaco titiggicagi goocegegea ggggaeteag ggcooclage clatgetgeg goeggggage tggagaagag etoctgtgat telacocagg gaaccactit gggaaccccc aaccctccat ggatggagaa ctgctgctga gggcagaggg atctacgcca gcaggtggag cotgggcage gitegageag gggtectagg etgectggea etggeaggge tggeegeege actgeeetg gecteagtgg ්රෑරුල්කහුත් දෙසුන්සුරදල්ද (පුළුදුන්යුත්පපුළු සුදුරැක්සුපුරුදු දෙපුසුදුරුත්ථ සුදුරැරුරුපුළු දෙපුළිත්සුදුන් අරසුළික්සුදුන් gagaataegg ggcotcocca ctetgectge cotaegegee acotgagggt cagecageag cootggggott cacegtggee itececteag igacocteat etectgicag eagecagggg ececcagget ggagggeage eatigigiag agecagaggg gaigcigca gaacaalcag cigggaggaa tcoccgcaga ggcgcigigg gagcigccga gcctgcagic gcigcgccta catooggaco otgggcagac tgcaggaact ggggttccat aacaacaaca tcaaggccat cccagaaaag gcottcatgg odgaccdg accegegeag geatceggd geteceateg gggatgigc aacagdgc caggetecga gicdggaac cagagaacca ctatgaccag gacctggatg agctccagct ggagatggag gactcaaagc cacacccag tgtccagtg gggacocaca gettegaggg getgeacaat etggagacae tagacetgaa ttataacaag etgeaggagt teedgtgge gicticacaa teaaattgag gagetgeeca geetgeacag gigteagaaa ttggaggaaa teggeeteea acaeaacege iggicaging gaggotgaag acciticacti tgatgatgag gagtottoaa aaaggooooti gggootoott gooagacaag geacteacg gagatocotg teagggeect caacaacote cetgeecitge aggecatgae eetggeecte aacegeatea gatgocaace teateteet ggicceggag aggagetitg aggggetgte etecteege eactetgge tggaegaeaa catocaccet gaggeettet ecaecetgea etecetggte aagetggace tgacagacaa ecagetgace acaetgeece aictgggaaa itggagciga caccitcage cagcigagci cocigeaage cciggaicti agciggaacg ccalceggie ciitgaggoc gigigggaci gegecalggi gaggeaegig gociggeica icitegeaga egggelecte tacigloceg aaactecaca cactatetet gaatggtgee atggacatee aggagtttee agateteaaa ggeaceacea geetggagat ageoctacte caggeocett caageoctgt gagtacetet ttgaaagetg gggcateege etggeogtgt gggecategt icggigdigc igdicardd ggccgcagig cagigcagcg iclocgidic cigigiccgg gcciaiggga agiccocdic gecacatoce egactacgeg ttecagaate teaceageet tgtggtgetg catttgcata acaacegcat ecagcatetg ggaggagdg egtddddg ggaaccaldt dcacacald coaggacaag callddgg toldacage dgaaaaloc Iggotggact igggggettg algcaictga agctcaaagg gaacctigci ciciccagg ccticiccaa ggacagttic ccaaaactga ggatcctgga ggtgcctai gccaccagt gctgtcccta igggaigtgt gccagctici tcaaggccic gtigetetes gigetetigea alggaetiggi getgetgace gigitegetig gegggestige ececetigese seggiseaagi ocotegrage ettertotgat giggatetea tterggaage ttergaaget gggeggecce etgggetigga gaectatgge etgeocotgo otgeotgoot caacecactg otgtacotgo tottcaacee ceacttoegg gatgacotte ggeggetteg occetgaegg ettacetgga exteageatg aacaaextea cagagettea geetggeete ttecaceaee tgegettett ctggtgatga tgaactectt etgttteetg gtegtggeeg gtgeetaeat caaactgtae tgtgaeetge egeggggega iggecticet cagettigee tecatgetgg geetetteee tgteaegeee gaggeegtea agtetgteet getggtggtg ggaaccotot gotacagaeg atacactttt atgataaccc aatocagttt gtgggaagat eggeattoca gtacetgoot

GPR51

580

90188

AB049405

Coupled Receptor G Protein-

582

sapiens sapiens Homo Homo ۵, cacctigata cigggocici toctigicat gictgaagci giggaocaga gacciggaci titgicigci taagggaaat gagggaagta RLLPSGMCQ QLPRLRVLEL SHNQEELPS LHRCQKLEEI GLQHNRIWEI GADTFSQLSS tocottico icicicocco teggigaatg atggetgeti ciaaaacaaa tacaaccaaa acicageagt gigatciata geaggalggo ccagtacotg getecaetga teacetetet eetgtgacea teaceaaegg gtgeetettg geetggettt eettggeet teeteagett aigacgicca ceigeaceaa cageaegege gagagiaaca geagecacae gigeaigeee etetecaaaa igeocateag cotggoccae ggeateatee geteaacegt getggttate tteetegoeg extetitiegt eggeaacata gtgetggege AYIKLYCDLP RGDFEAVWDC AMVRHVAWLI FADGLLYCPV AFLSFASMLG AAALPLASVG EYGASPLCLP YAPPEGOPAA LGFTVALVMM NSFCFLVVAG LKGNLALSQA FSKDSFPKLR ILEVPYAYQC CPYGMCASFF KASGQWEAED LHLDDEESSK RPLGLLARQA ENHYDQDLDE LQLEMEDSKP HPSVQCSPTP GPFKPCEYLF ESWGRLAVW AIVLLSVLCN GLVLLTVFAG GPVPLPPVKF VVGAIAGANT LTGISCGLLA SVDALTFGQF SEYGARWETG LGCRATGFLA VLGSEASVLL LTLAAVQCSV SVSCVRAYGK SPSLGSVRAG VLGCLALAGI TLISCOOPGA PRLEGSHCVE PEGNHFGNPQ PSMDGELLLR AEGSTPAGGG aagacagtga aggggtggag ggttgatca MRLEGEGRSA RAGQNLSRAG SARRGAPRDL SMNNLTELQP GLFHHLRFL LQALDLSWNA IRSHPEAFS TLHSLVKLDL TDNQLTTLPL AGLGGLMHLK DLNYNKLQEF PVAIRTLGRL QELGFHNNNI KAIPEKAFMG NPLLQTIHFY LFPVTPEAVK SVLLVVLPLP ACLNPLLYLL FNPHFRDDLR RLRPRAGDSG PLAYAAAGEL EKSSCDSTQA LVAFSDVDLI LEASEAGRPP GLETYGFPSV ELRLSGNHLS HIPGQAFSGL YSLKILMLQN NQLGGIPAEA LWELPSLQSL DNPIQFVGRS AFQYLPKLHT LSLNGAMDIQ EFPDLKGTTS LEILTLTRAG LSGGGGFOPS GLALLHTY AAG17168.1 G Protein-coupled AF411115 Coupled Receptor Receptor GPR101 G Protein-190188

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egtaacagca acagcaacce tectetgeec aggtgetace agtgeaaage tgetaaagtg atetteatea teattitete etatgtgeta cataatcate tggettitet teetgeagtg etgeateeae eeetatgtet atggetaeat geaeaagaee attaagaagg aaateeagga ggitagecte acceaecigt tegeettege cagegicaae accatigieg iggigicagi ggategeiae tigiecatea tecaeectei ා හුළලය සුදල සුදුන සුදුරුපාළ සන සුසුසුසුපෙසු ස සෙළුදල් පුදෙසුදෙසු පෝල්ලස සුදුසු සසුලුසස සුදස ස සහ සැසසු agetacacta ticteagegt ggretectic ategreatic cactgatigt catgatigec igetactocg iggrighterg igeageoegg ඉපුසුලයාදනක් සුදුක්ෂුලයක්සු පුත්පපුපුයමුණ දෙනක් පුදුක්කුලක්ක්ෂුණ ක්රමුසුසුස්තරක් ඇයික්සුන්සු ප්රත්තුන්සුපුරු agagggagca gagaagaagg aggagttoca ggatgagagt gagtttcgoc gocagcatga aggtgaggto aaggocaagg gaggagaac agcatgaagg cagacaaggg tcgcacagag gtcaaccagt gcagcattga cttggggtgaa gatgacatgg catgotgaag aagtitotiot goaaggaaaa gococogaaa gaagatagoo accoagaoot goooggaaca gagggiggga aggcagcaig cicigcigia caaigicaag agacacagci iggaagigcg agicaaggac igigiggaga aigaggaiga agttiggiga agacgacaic aatticagig aggaigacgi cgaggcagig aacaiccogg agagcciccc acccagicgi etectocaet etaeggetgg ggecaggetg cetttgatga gegeaatget etetgetoea tgatetgggg ggecageoe ctectacecg tecaagatga eccagegeeg eggitacetg etectetatg geacetggat tgiggeeate etgeagagea occiggggc octactgctt titagcagtc ctggccgtgt gggtggatgt cgaaacccag gtaccccagt gggtgatcac lagigitigca gegeaageeg cagetigetige aggigaceaa eegittiate titaaeetee tegteaeega eetgetigeag atticgeteg iggeccortg ggiggigges acctetgige eteteticig gececteaae agocaetict geaeggeest ctgaaggcaa gattgtccct tcctacgatt ctgctacttt tccttga

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MTSTCTNSTR ESNSSHTCMP LSKMPISLAH GIRSTVLVI FLAASFVGNI VLALVLQRKP QLLQVTNRFI FNLLVTDLLQ ISLVAPWVVA TSVPLFWPLN SHFCTALVSL THLFAFASVN TIVLVSVDRY LSIIHPLSYP SKMTQRRGYL LLYGTWIVAI LQSTPPLYGW GQAAFDERNA LCSMIWGASP SYTILSVVSF IVPLINMIA CYSVVFCAAR RQHALLYNVK RHSLEVRVKD CVENEDEEGA EKKEEFQDES EFRRQHEGEV KAKEGRMEAK DGSLKAKEGS TGTSESSVEA RGSEEVRESS TVASDGSMEG KEGSTKVEEN SMKADKGRTE VNQCSIDLGE DGMEFGEDDI NFSEDDVEAN NIPESLPPSR RNSNSNPPLP RCYQCKAAKV IFIIIFSYVL SLGPYCFLAV LAVWVDVETQ VPQWVJTIII WLFTCQCCIH PYVYGYMHKT IKKEIQDMLK KFFCK FR PPK FDSHPDI PGT FGGTFGKUPP SVDSATFP	transitions coaguages of circuiting getpagities acticitica trainguage autigaages tgagaaactic agociciatic algitigaaca geticitace igotaocaig acticitica trainguages caticitica igotaocaig acticitica trainguages contigued caticitica accidates configurate caticitica accidates gaticates trainguages caticitica igotaocaiges caticitica accidates agociatica accidates accidates gaticates gaticates gaticates agociatica accidates accida	MANDE STATES OF THE SULGYR YVAVSWGVVV AVTGTVGNVL TILALAIQPK MANSSDANFS CYHESVLGYR YVAVSWGVVV AVTGTVGNVL TILALAIQPK LRTRFNLLIA NLTLADILYC TILQPFSVDT YLHLHWRTGA TFCRVFGLLL FASNSVSILT LCLIALGRYL LIAHPKIFPQ VFSAKGIVLA LVSTWVVGVA SFAPLWPIYI LVPVVCTCSF DRIRGRPYTT ILMGIYFVLG LSSVGIFYCL IHRQVKRAAQ ALDQYKLRQA SIHSNHVART DEAMPGRFQE LDSRLASGGP SEGISSEPVS AATTQTLEGD SSEVGDQINS KRAKQMAEKS PPEASAKAQP IKGARRAPDS SSEFGKVTRM CFAVFLCFAL SYTPFLLINI LDARVQAPRV VHMLAANLTW I NGCNDVI Y A AMAROFBOA VGSII KRGPR SFHRI H	citigotica gagciaaacc agritticti croticacag caaalatri gacaggate atcricice agciggigge aagaagacag aagiccicci acaactaic citigosecte getergece acatetiggi cetetitite atagtgitig iggactice gitggaagat treatetiggi ectetitite atagtgitig iggactice gitggaagat treatetiga acaigcagat geteragic ecegacaaga teatagaagt getiggaatie teatecatec acacciccal atggattact
CAC33098.1	NM_020370	NP_065103.1	AJ303165
G Protein-coupled CAC33098.1 Receptor GPR101	Inflammation-Related G Protein-Coupled Receptor EX33	Inflammation- Related G Protein-Coupled Receptor EX33	G Protein- Coupled Receptor Ls190419
	190418	190418	190419
283	584	585	586

Ношо

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Receptor

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۵, gaaagteatt gtaagtgttt acateacetg ettectgace ageateceet attactggtg geoeaaeate tggaetgaag actacateag tacciccai citigocaca citigggcoc ecegeateat catgaticit taceaectet atggggege catecagaae egetggetgg ctagagagat gtaatcagta agcaagaagg aaaaagggaa attcacaaag taactttttg tgtctgtttc tttttaaccc agcatggaga LCFRAKPVFL LSTANILTVI ILSQLVARRQ KSSYNYLLAL AAADILVLFF IVFVDFLLED igcacateat gtocgacatt gecaacatge tageoottet gaacacagoc ateaacttet teetetaetg etteateage aageggttoe FILNMOMPOV PDKITEVLEF SSIHTSIWIT VPLTIDRYIA VCHPLKYHTV SYPARTRKVI LRRKSNFRLR GYSTGKTTAI LFTITSIFAT LWAPRIIMIL YHLYGAPION RWLVHIMSDI atgraatgca gcatgragta aagacttaac cagtgittta aaactcaact ttcaaagaaa agatagtatt gctccctgtt tcattaaaac VSVYITCFLT SIPYYWWPNI WTEDYISTSV HHVLIWIHCF TVYLVPCSIF FILNSUUVYK aagiteteta agtitgaage gicagetica accaaacaaa itaatggeta tictacatte aaaaateagg aaatttaaat tiattatgaa caccicigng cateaegice icaiciggai ecacigeite acegiciaoe iggigecetg etocaicite itealetiga acteaateal giaccgitaa ccattgacag giatatogot gictgocacc ogotcaagia ccacaoggio tcatacocag ocogoacog gigiacaag cicaggagga agagcaatti tegictoogi ggciactoca eggggaagac cacegocate tigiticacca ANMLALLNTA INFFLYCFIS KRFRT 2222 CAC33085.1 NM 020377 Coupled Receptor Leukotriene G Protein-Ls190419 Cysteinyl CYSLT2 190419 190427

exigaaatic tattaacatt teegeagaag atgagtaggg agatgetgee tteeettitg agatagtgta gaaaaacaet agatagtgt iggototgag cagaacggca gtgtcacaic atgottagag otgaalotot ataaaaitgo taagotgcag accatgaact atattgoott lgaggitoci ticigiocai igaaacaagg ctaaggatac taccaactac tatcaccaig accaitgtac igacaacaai igaaigcagi ggtggtgggc tgcctgctgc cattiticac acteagcate tgitatetge tgateatteg ggttetgtta aaagtggagg teecagaate tteattige attgggagag aggitetaae acactgaagg caaecetati tetaetgtit etetetigee agggtattag gaaggaeagg ggggctgcgg gtttctcaca ggaaggcact gaccaccatc atcatcacct tgatcatctt cttcttgtgt ttcctgccct atcacacact gcaaagcaca tiggateeta ettitettea gatattgaac cagatetetg geceateagg ettietaaat tetteaaaag agecacaaet gicaacaigi acagcagiai tiatticcig accgigciga gigitgigcg iticciggca aiggitcacc ccittcggci tcigcaigic algialcica aattitciti gagatgeagg tiagtigace tigetgeagt tetecticee attaatieat tgggatggaa gecaaaaata occaagtaag gacagtgaga gaaaaggggg agaaggattg gagcaaaaga gaactggcaa taagtagggg aaggaagaat ataaggagct citagatgag accigitcit giatectigi giccatetic atteacteat agictecaaa igaettigia itlaealeae teceaacaaa igitgatict taatattiag itgaecatta cittigitaa taagaectae iteaaaaati tiatteagig tattiteagi aaagaggige etetgaggat tagggitgag eacteaaggg aaagatggag tagagggeaa atageaaag tigtigeaet agaaaagaag cacatootaa gattoaggga aagactaaot gtgaaaagga aggotgtoot ataacaaago agoatcaagt aaaagtagga ggaggatotg gggcattgcc ctaggaaatg aaagaattgt gtatagaatg gaagggggat catcaaggac ctcagaaaag gccatccaca gaaggcaaag acaaagtgtg ttttccctgt tagtgtgtgg ttgagaaagg aaacaagagt grigagiot taatgaggga tacaggagga aaaatoocta ctagagtoot gigggotgaa atatcagaot gggaaaaaat gaggaccgtc cacttgacga catggaaagt gggtttatgc aaagacagac igcataaagc titggttatc acactggcct coccagcit ctocagcicc ccigiccict icaaicccit gagatatagc aactaacgac gctactggaa gccocagagc accagcatca ggagtgcctg gatcctctgt gggatcatat ggatccttat catggcttcc tcaataatgc tcctggacag iggeageage caatgeetge tteaateete tgetetatta etttgetggg gagaaittta aggacagaet aaagtetgea

ctocotgoag ggoagattat gocaggoact ttacattigt tgatocoatt tgacattoac accaaagoto tgagttocat titacagotg aagaaattga agottagaga aattaagaag ottgittaag titacacago tagaagagt titaaaaato totgigoaga agtgitggot

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gggtgctcc cocaccacta coctiguaa cticcaggaa gattggttga aagtctgaat aaaagctgtc ctitcctacc aattrocicc coctoctac tctcacaaga aaaccaaaag tttcttca gagttgttga ctcatagtac agtaaagggt ggagtgata tggcattctg aaagtaggga gggactaagt cagtcgtcat actaaac MERKFMSLQP SISVSEMEPN GTFSNNNSRN CTIENFKREF FPIVYLIIFF WGVLGNGLSI YVFLQPYKKS TSVNVFMLNL AISDLLFIST LPFRADYYLR GSNWIFGDLA CRIMSYSLYV NMYSSIYFLT VLSVVRFLAM VHPFRLLHVT SIRSAWILCG IIWILIMASS IMLLDSGSEQ NGSVTSCLEL NLYKIAKLQT MNYIALVVGC LLPFFTLSIC YLLIRVLLK VEVPESGLRV SHRKALTTII ITLIIFFLCF LPYHTLRTVH LTTWKVGLCK DRLHKALVTT LALAAANACF NPLLYYFAGE NFKDRLKSAL RKGHPQKAKT KCVFPVSVWL RKETRV	cotgitigos acgigologia caaalettaa eteoteaagg aeteocaaaa exagagacae caggagoetg aatggggaac gattefitea getaegagui tggggattae agegacetet eggacegeet tgtggaetge etggatgge etgeetgge categatgge categatgge categatgge categatgge categatgge categatgge categatgge categatgge etggatgge etggatggge etggatggge etggatggge etggatggge etggatgggggggggg	MGNDSVSYEY GDYSDLSDRP VDCLDGACLA IDPLRVAPLP LYAAJFLYGY PGNAMVAWVA GKVARRRVGA TWLLHLAVAD LLCCLSLPIL AVPIARGGHW PYGAVGCRAL PSIILLTMYA SVLLLAALSA DLCFLALGPA WWSTVQRACG VQVACGAAWT LALLLTVPSA IYRRLHQEHF PARLQCVVDY GGSSSTENAV TAIRFLFGFL GPLVAVASCH SALLCWAARR CRPLGTAIVV GFFVCWAPYH LLGLVLTVAA PNSALLARAL RAEPLIVGLA LAHSCLNPML FLYFGRAQLR RSLPAACHWA LRESQGQDES VDSKKSTSHD LVSEMEV	algolggico etgetgicot gggocicago etelggicie tectgeacoc tgggaegggg goccatitgt gootgicaca geaacitagg algaaggggg actaegteg ggggggete teccetgg gegaggegg geaacitagg attaegggg actaeggeg ggggggggg teccetgg gegaggeggg ggaaeggc eteggagge ggaaeggc gggaeggggggggaegggaeggg
NP_065110.1	NM_018485	NP_060955.1	LG94114
Cysteinyl Leukotriene CYSLT2 Receptor	G Protein- Coupled Receptor C5L2	G Protein- Coupled Receptor CSL2	G Protein- Coupled Receptor Ls 190438
190427	190437	190437	190438
589	290	165	292

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ociacigeaa ciacaegcag iaccageoce gigigcigge igicaleggg ecceaciegi cagagciege caiggicaoc ggeaagitet teagettett eeteatgeee eaggtggege occeeaceat eaccaecee eacceageee tgoocgtggg උළුදෙලුයාට සුයාවෙදෙය දෙනුසුලුගරු ආළගළුවල් රුදල්ලියෙදින අනුවරළදසු ටෙළුදුලන්නුදු (සුයාදුලන්දෙ

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> **ENSP00000080** Coupled Receptor 322 G Protein-

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AQDPVKPWQL LENMYNLTFH VGGLPLRFDS SGNVDMEYDL KLWVWQGSVP RLHDVGRFNG SLRTERLKIR WHTSDNQVRP QACAQKPVSR CSRQCQEGQV RRVKGFHSCC YDCVDCEAGS YRQNPDDIAC TFCGQDEWSP ERSTRCFRRR SRFLAWGEPA VLLLLLLSL ALGLVLAGG LFVHHRDSPL VQASGGPLAC FGLVCLGLVC LSVLLFPGQP SPARCLAQQP LSHLPLTGCL STLFLQAAEI FVESELPLSW ADRLSGCLRG PWAWLVVLLA MLVEVALCTW YLVAFPPEVV TDWHMLPTEA LVHCRTRSWV SFGLAHATNA TLAFLCFLGT FLVRSQPGRY NRARGLTFAM LAYFITWVSF VPLLANVQVV LRPAVQMGAL LLCVLGILAA HIPRCYLLM MLOPGLILAA	icigacigo tegiticotor grocotor geototora cigatotora giucorgae oticacging geotora georgeco corcacging geotora geotora georgeco corcacging geotora geoto		GSQARHGAGT RLALLLSLA LSDFLFLAAA AFQILEIRHG GHWPLGTAAC RFYYFLWGVS YSSGLFLLAA LSLDRCLLAL CPHWYPGHRP VRLPLWVCAG
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ageacciggg aaaaggcaga cegtgragg gggectgtgg eccaagcgt otgtggoct eggggagtggg aagtgaggg caggagctt citacactic gocatgagtt tectgatega etcaagcal atgatacct eccaaalact aittitigga ttiggtggc titteticat gegecautig titaaagact atgagateg tecgtalgit gaaaggga tettetecgt gaegttigga ttitetigaa eccatgtitiga gectaatega titaaggaga tettetecgt gaegttigga ttitetigaa eccatgtitiga geteatega tettetecgt gaegttigga ttitetigaa eccatgtitiga geteatega tettetigga tagagagtitigaalgagga tettetigga titaaggagat titaaggaga tettetigga titaagagag tettetigga titaagagagat titaaggaga eccatgatiti teactggaa aaagaactg titaagagagat tettetigga gaeaacagc tagagagat tettetigga aaaagaacaga etgetititi ectggaaacaga tagagaga tettetiggaga titaagagaga tettetiggaga ettetiggaga titaagagaga tettetiggaga ettetiggaga tettetiggaga aaaagaaaag gatgagaga tettaagaga ectatigga titaagagaga tettaagaga aaaagaaaag gatgagaat tetagecagagaa extitititig gaacaggagaa titaagagaga aaaagaaaag gatgagaaa etagagagaa aattaacaaga agagagaaa aaaagaaaaa gatgaacaa taagagagaa eaaaggagaa aattaacaa gaaggagaga titaagagaga atgataaca gaacagagaga titaagagagaa atgataaca gaaggagaaa agagaaaaa acttaaca tagaaaaaa gagaaaaaa gattaacaa tagaacaaa agagaaaaaa gaagaaaaaa gaagaaaaaaaa	acgaegati tocgittaa egitcacate gaaaaggta tagcittecc teggattga cicataaaa tcagagate t MSFLDSSIM ITSQILFFGF GWLFFMRQLF KDYEIRQYVV QVIFSVTFAF SCTMFELIIF EILGVLNSSS RYFHWKMNLC VILLILVFMV PFYIGYFIVS NIRLLHKQRL LFSCLLWLTF MYFFWKLGDP FPILSPKHGI LSIEQLISRV GVIGVTLMAL LSGFGAVNCP YTYMSYFLRN VTDTDILALE RRILQTMDMI ISKKKRMAMA	RRTMFQKGEV HNKPSGFWGM IKSVTTSASG SENLTLIQQE VDALEELSRQ LFLETADLYA TKERLEYSKT FKGKYFNFLG YFFSIYCVWK IFMATINIVF DRVGKTDPVT RGIEITVNYL GIQFDVKFWS QHISFILVGI IIVTSIRGLL ITLTKFFYAI SSSKSSNVIV LLLAQIMGMY FVSSVLLIRM SMPLEYRTII TEVLGELQFN FYHRWFDVIF LVSALSSILF LYLAHKOAPE KOMAP	aggicgcagg cgggcgigcg iggagcgggg gccgcggccg cgccgcagag aigigacicg ggccgaaggc cagciggagc gcgggggc cagciggagc gcgcgcgcg gcgggcgcgcgcgcgcgcgcgcgc
NM_016334	NP_057418.1		NM_016235
G Protein-Coupled Receptor SH120	G Protein- Coupled Receptor SH120		G Protein- Coupled Receptor GPRC5B
190595	190595		190599
989	597		298

Coupled Receptor

190602

GPCR150

Coupled Receptor

190599

599

Homo

sapiens

⋖ caaagaagag gccotctggg tgalgaagtg accatcacat ttggaaagtg atcaaccact gitcottcta tggggctctt gctctaatgt gaacggggcc ticctccica tcacagcctt cctctctgtg ctcatctggg tggcctggat gaccatgtac ctcttcggca atgtcaagct ccaagicaca caggaagaca cottiggiga aagactttaa gitocagaga atcagaatti ctcttaccga titgoctooc tggctgigto ctggaaggaa ccgctctcgc ttcgtcctac acttgcgcaa atgtctccga gcttactcac atagcatatt ggtatatcaa aatgaaatgc attragicant togaacatet eggecattea aageococcat giteterigea etgittiggee ageataacet etageatega iteaaageag agaggacaga aaatgaagca gtgtttatc atgtgtattt cagcaggtct tcttgaaatt taactaaaaa tatgactgct ctclctlcag igaactgete titicagtae cagitaegte aaacaaacea geocciagae gitaaciate igetaitett gateataett gggaaaatai agittiaacc tgacggcatg gaatgiataa atgagggtgg gtccttctgc agatactcta atcactacat tgctttttct ataaaactac ocataagoct ttaaccttta aagaaaaatg aaaaaggtta gtgtttgggg googggggag gactgaccgc ttcataagoc cogtigciai ggigaaaati cciggaigga atggatcaca tgagggtiic tigtigctii tggagggigi gggggalaii tigtiitggi titictgcag gticcatgaa aacagcccti ticcaagccc attgtiictg tcatggiitc catcigloct gagcaagtca ticctitgti ජාපූදයේදෙසිa පුණුසුණුලයa සුසුසරුදෙයාදේදයා පුන්නයෙ පුන්සෙදී පැවසුනරුසු පුරෝරුදුන්සු සුපෘසුණ්දලයු attaaatat cottacacta ggaatgagaa gaaaaaacac ctgtcaaaat tttatggaat attttgcat ttcactagca ttcgttgatc cettgateat etegecetgt tectacaett aegggtgtat etecaaatee teteceaatt trattecett atteatttea agageteeaa algcgggaga cggccticga ggaggacgig cagctgccgc gggcctatat ggagaacaag gccttctcca tggatgaaca caatgcagct ctccgaacag caggatttcc caacggcagc ttgggaaaaa gacccagtgg cagcttgggg aaaagaccc iggggicticc agcigaaagc ccctccggga ggcaggitgg aaggcaggca ccacggcagg tittccgcga tgatgicacc gcagcagggg gatgcctgga acgaccccac cttggccatc acgctggcgg ccagcggctg ggtcttcgtc atcttccacg gigggattoc aaggigaggc ccaactgaat cgiggggtga gctttatagc cagtagaggt ggagggacoc tggcatgtgc gatecactge accettetge cagecetgea ggagaacaeg eccaactact tegacaegte geageceagg naggaaccaa aaataacata attgaaggca gtaaaagtga aattaaatag gaagatcatc agtcaaggaa gacccactgg ttictigagg gagaaategg taacagtige egaaccagge egecteacag ecaggaaatt iggaaatect agecaagggg PNGSLGKRPS GSLGKRPSAP FRSNVYQPTE MAVVLNGGTI PTAPPSHTGR HLW gegetecegtt tagaageaae gigtateage caactgagat ggeegtegtg eteaaeggig ggaccateee aactgeteeg atticgigia aaigigaaca cigacgaaci gaaaagctaa caccgactgc ccgccctcc ccigccacac acacagacac ggacaaaigg ggactitgcc accggcttgc clggtggttt gcacattica ggggggtcag gagagtlaag gaggttgtgg ctgggaagac tgtttcatcc tctgggggta gaacagaacc aaattcacag ctggtgggcc agactggtgt tggttggagg gizataccag accaactica atccccgicaa actazagicaa agctaattgic azatagiatt aggicticactig gaaaatgitgig lggggggctc ccactctat cactctcc cagcaagige tggacccag gtagcctctt ggagatgacc gttgcgttga tageagget teaggggtte ceactaggat geagagatga cetetegetg ecteacaage agtgaeaeet egggteettt ctaiggigag aacacaggcc cegecectic cettgtagag ceatagaaat attetggett ggggcagcag teettette VRHGTGPAGW QLVĞLALCLM LVQVIIAVEW LVLTVLRDTR PACAYEPMDF VMALIYDMVL LVVTLGLALF TLCGKFKRWK LNGAFLLITA FLSVLIWVAW niciaceaca iggiacigci igiggicaco ciggggcigg cocicticac icigigoggo aagticaaga ggiggaagci QENTPNYFDT SQPRMRETAF EEDVQLPRAY MENKAFSMDE HNAALRTAGF MITMYLFGNVK LQQGDAWNDP TLAITLAASG WVFVIFHAIP EIHCTLLPAL LDAIWGIVVE AVAGAGALIT LLLMLILLVR LPFIKEKEKK SPVGLHFLFL CGTLGLFGLT FAFIIQEDET ICSVRRFLWG VLFALCFSCL LSQAWRVRRL ocatocotga NP\_057319.1 NM 014373

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sapiens sapiens Homo Homo 4 ρ, caggotgggg gitocgagto dotgatoti tocotgaggt gotocitiga ggootgiggo acootgggta igtggattoo egootoalgi ccacticiga caiccagica actiggaica ggccigcagg ccigggigag itccigggac icicccaata aggittiaaa aaaictitat acocagocat ctaccaaage ctgaaggcac agaatgctta ttctcgtcac tgtcctttct atgtcagcat tcagagttac tggctgtcat aaaaacaaaa taattocaag aagttttat agttatteag ggacactata ttacaaatat taetttgtta ttaacacaaa aagtgataag cttiggatoc attigicaae iggaagiget getteatice actiacaati ectaatetig ageaaatiga aaagectata teaataaiga ittgitaata ttattaatta aaagttacag ctgicataag atcataatti tatgaacaga aagaactcag gacatattaa aaaataaact agitaacatt iggciaiaci gaigitigig itacicaaaa aaaciacigg aigcaaacig tiaigiaaai cigagattic acigacaaci CONFMEYFCI SLAFVDLLLL VNISIILYFR DFVLLSIRFT KYHICLFTQI ISFTYGFLHY YQSLKAQNAY SRHCPFYVSI QSYWLSFFMV MILFVAFITC WEEVITLVQA RITSYMNET ILYFPFSSHS SYTVRSKKIF LSKLIVCFLS TWLPFVLLQV IIVLLKVQIP gaactaaaac aactitigoc occtgactga tagcattica gaatgigict titgaaggge talaccagti attaaatagi gitttattii ctgtgagoca aagcoctgaa gtggaagagc ctcaggagga aggcagtctg agccatgggc tggcagctgc aggaagtaca tticatggt gatgattta tttgtagctt tcataacctg ttgggaagaa gttactactt tggtacaggc tatcaggata acttoctata cttcccacge ggccctcctg gctccattgg atggcaggct ccgggcagac gagctgccag gtggggtgtggg gatggagattct tttggagcaa gagcgccatg gggagcctcc ccagtgggac agaagcacag gagtgagggg gttgggccct gaggagatct aaacgcaage ageiggcait gagectaggg acagaaagaa aageeggeee etcagectea eeetgeeee agggtggoot cagigicace egeaaegget geagigeaeg geceaiggag aaaggaeait gicaggigag aegigggett eeaaaggee gitticicag tacciggita ccattigiac tacticaggi aatcatigit tractiaaag ticagaticc agcatatati gagatgaata igaalgaaac tatcitatat titecittit cateecacte cagitatact gigagateta aaaaaatatt ettateeaag eteatigiet ggitoccacc calcagacca cagciticcag ccaggacago ttgggcagca gbagicalag gagacaictg gaggcigagg ttocctggtt atactttgtc aatagttttc tcattgctac agtgtattgg tttaattgtc acaagcttaa tttaaaagac attggattac citaggatga cogotgocog gtogggotoc cotaaacgoa gootottgig goaggootag ocogagoago octoodgga gaacticigg aagaggagig atatototgi coactocagg gotocaacac toccageact gigocaggac atggococca tract caa at tatticetti actiaigget titigeatia tocagittie etgacageti giatagatia tigecigaal tietetaaaa caaccaaget ticatitaag igtcaaaaat tattitatti etttacagta attitaatti ggatticagi eetigettat guttigggag getcoegete ceagtgagge tgetcoeaet tetectgete aaacotgggg etceaggaga aetgtttgta aagaetgggg agoogtgigt toagottooc ttototoag ctootgotge ctootctaag acagggcaag gggcaggooc ggggtooot aptggggtcc acattgaatg ggacgttgtg ttgactcaga attgctccca gctgtgagga attgttaaac coctacatta grocacciga caagcactic tococtggac tectgigest getecateae etgeaccete tettaattag caggittggag AYIEMINIPWL YFVNSFLIAT VYWFNCHKLN LKDIGLPLDP FVNWKCCFIP MTÁLSSENCS FQYQLRQTNQ PLDVŇÝĽLFĽ IILGKILLNI LTLGMRRKNT PVFLTACIDY CLNFSKTTKL SFKCOKLFYF FTVILIWISV LAYVLGDPAI itaagatate aacetaaaca tititattaa atgiteaaat gtaageaaga aaaaaaaa LTIPNLEOIE KPISIMIC NP\_055188.1 AF147788 Coupled Receptor Melanopsin G Protein-GPCR150 190602 190623

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පියළුළුණයක සුදුන්දෙන් ආක්ෂයේ දුලක් සුදුක් සුදුන්දුසුදු කළුදුළුද්යයය දියදුසුක්සුක්සු ආක්ෂුරේද්යේ කළෙයේ දුසුදු ස

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ceggacacct gecaacatgt teatiateaa ectegeggte agegactice teatglecti cacceaggee ectgicited teaecagtag catgotgot ggicatocio cicilogigo totocigggo tocciatico gotgiggoo tggiggooti igcigggiaa geagiggota cigggactae algagetica egceggeegt gegtgeetae accatgetic tetgetgett egtgtiette etecetetge tiateateat saccticggg geotgeaagg geaatggega gteedgtgg eageggeage ggetgeagag egagtgeaag atggeeaaga gggdgdgg aadggaagg ggggagalg ggdgggagg ggcacattca aggggaagta ggtggacttg ggtcagccag පුයා(ලූදයලය ළලුවෙලුවෙනුම නවලුදයැයය ලන්වැන්වුවල ළලන්ලවලල ඉයලුරුලිවෙන පරය(ල්) යනුන්න් පැර ciggogggag cagggigoco aggagotaco igagoctoag gigagaigga cattoagggg acatgacigg cagcaaggga gacagggcca ggtcagggcc agggctgtgt atggggaccc gaatgccaca tacaaagctc ctgccagata aggagccgtg ggaccggccc ctcggccagg cggccctgc ccaccact acacctgcac cagcctacca gagcatgac agtgggigaa ctactgctac atciticatci icagggccat ccgggagaca ggacggtaag agccgagcat ggaggggggc tacaggaggg agtpacaggt actictpatg ctgtgtcaga ctaggcaggg ggctggggtg tgaggactct gaaggtggaa cggtggaga ggcaagctga gcaagtgctt atgggggcagc agtgtctagg ggagcctcag gagacaaggg cttctggggc gggctttttg gtcagigccg coccaaagge (gagcaccig cotiggctcc caggegccta egigccgag gggtigctga catecigcte ocigigagia agcaagaagg gaagaigcag igiiggioci aaggocicig ccagociigg ocagaigigg caggiggagg gggiggagig cgolcagioc igciciioci gigaggigaa ggocagagca gagiciaoco igioocaga ocolocioco ctggaagte agggetgect geactggaag gaatgaeact cteacgagtg eectgeaagg atagteeaga gaggeteee ctggggatgc cctcaatgga gggtggccca aaggagggta tttgctgctt ctgggcagag aggggggtagc tgccctcagt aactgacact gececateag gggecaaagg atetettggg caactgatec caaaatacaa aggetttetg ggeggggeaa aacagcagcc gtgaccctgg tgctgactgc cacccgacta gggtcagacc tggacgatgc gtccttccta gggctctcca atcaccetga eggecatege cetggacege tacetggtaa teacaegece getggecaee tttggtgtgg egtecaagag caaggtagta gccctcctgg ggtaagacca ggcctctggc tgaagccctg gcaagcaaaa ccttgaagtt alggtgagct gigogggaag ciciccatag ciciggaggi gicaggaago gccicctaac agciticigai octoccagga gcagaagcoi cciciataag cagtggctct ttggggagac aggtagatgc tggggctccc tttgctgga gggaggagga gggttttgac itergeteaa atetageagg aatgggagge agtgggettt geaggecate ceagttooot ceagetteet caetgeatgg caggacteag agcaggggct gtgcccacag gctgcgagtt ctatgccttc tgtggagctc tctttggcat ttcctccatg gograciges ittgreetge igggegittg getetatgee etggeetgga gietgeeace ettettegge iggagtaagt cagcicgige cigitigeti geceatgigi gigigeaigi giaagigigi ggeaegigig igeacaigea laceigaggg

gcacagaigc aigcicaact icagaagigi titigagaag igagggciai taaacccigg aagigittag alaggagacc tictigigga aaaattatoc tggcactgoc aattootooc tatggggotg acttagotgt gotggtttgg gotggattag gatttgggot ttggcagggo occiggicic caitaccaga gatgiggcii gagocagoca cigagggcig gaaccaacat occcaggcic toccigcatg cctaccacoc agaatcicic igioccicoc accagoctig igagocicic aalcicocca occagcatci gictilcigi octcaicaco igocaiggii occagggici gagocicoc aittoccag aggoticigg teacogcaca taggocigi accagocigi ළුදුලුණුණු සුකෘළුදුරක්දු දුදක්වනුදුල්ල දැක්වුදුල්දෙකු කුණුදැක්ලුල්ල ළැළුකෘණුල්ලල ක්ක්රදුරුක්ල දැකුදැක්ලෙල්ද nagggitggg gaagaggctg aaggtgtgggg ggcaggagca agaagcctgg ccagcctctc cttcccagcc caacccggc atacatagge ectggeaggg etgeetetga gaeteaggga caetgaggae getggeaece tggeaggaag ageeceteee gictggagit ggigtgccic octococgc cocagcitoc caggggicac ggigtggagg gaggtcaggg itocdgggc agtgiccagi octaaciaig ggaccitcag acciggcgig iagggcagoc aggacagocc igigaatita agcacoocc cgococgocc tooccgacag igicatocig aagaaatcac agcagggaga gcicagcici gcloccaggg octggcagga acceptorate geteaccage caraceteca acotcagete gatetocata eggaggegee aggagtecet gegeteegag ggocacctag ttoctggaag caccagggca catgcagagg agotttgggo cocacaaago tttgggggga oggootgoca taaaaataca aaaattagcc aggtgtgtgt acgggcacct gtagtcccag ctactccgga ggctgaggca gaagaattgc ttgaattcag gaagcagagg ttgcagtgag ctgagatcac accactgcca ctccagcatg ggcgacagag caaaaaaaa aacaococca Igaagitegi aalcolcoci gataggeagg ggcaclaggg ccagageggg galggitigg gggitoccag gageggggcc aggatigaac acaggictic caactocagg ccalocitii ocalgotgac actotoccta gageegecage ccagcactig cctigctigg gggigdigti gggigtatica cgocggcaca gitgcccda coccagdiac egdiccacoc agigaggigg taaggaiget gggccctcac cagcitigege ciggecatec citecteagg cageociggg gcietigggga aagggaaaag aggettetea gateaaeget gtecaggtgt geecagggat gggtgteaae etteeteggg geeaggtgtg caactgaceg gecagegate tecteceact goocacatee etggggttet eggttgaggg actgagagag gagetgteag ggaatggeet ggteccecca gggecetact gtggggttte tetacaatag ecagggeaag agagggeate aeggttgggg ggigatgica gicacicacc accitoccaa ggocagiggo aggecigago cogiocagoa cagaggoigo tocagagigi ccagggatg ggtgteagec etecteaggg cetgeagete tgetteeect agatgteece aggaaagete egfgegeeae ctggoccaga agagaaggtg tgtcaggagg gccagctagc ttggggacca caccitctct gtcctaggta cgcacacgtc ocacceaag tacaggtgtg getetttee agaacceae aeettggeet eeaagggeet ggeetgeega tgggggeaga gecaccacc titetgiete tegtgigtgi giagaalggg ggecaccage agelgggage ggecaalgae actgagiggg iggaggeca aggeaagigg attaccigag gicaggagti cgagaitage ciggecaaaa iggigaaace eegiciclae agcattaagc ccctcctcc tgggagactt gaagagctca cgggatgggc atgggcctg gagatgggag atgtggcttt cagecatect egeacedag gaccagette acagettatt etetecetgg gtaaggtgee cagecceggg gtgggtggg ctgaagagat cagcacatct ggctctagat agggctccag agagacaagg caggagttag cttggagctc cttgctcctc iceaaggaac agtggacctg ggaacctcca coccaaatte ggcacatctt cottocagag ctgcaccctc aaccacccac ctgacacoct acatgagete ggtgecagee gteategeca aggeetetge aatecacaae eccateattt aegecateae geacceatec ecteceetge atergretge ceateceetg geoclaatea gatgigegge eccigeaggg iggecatige gagcotcago ttaccatgtg etcactgtgg gagcotggge aggteactta etceetetga ggetecaegt ecteetetga eggeteetgt teceaecaea ettgggetee teettaatte taeetaeaga geeetetaig ggeeteagea agaetgeege goccortitg gaacacacag troctetiga ggictocico cictolgcal gggotgiggi tacalgacca gaggigotgo ocatotocag gaalgggico cigagagotg cocttotago cottigiggo tagagiotgg ggattgigao alcigoagoa igetecetee tacteactea gateagaatt eteetggeat aggecaggea tggtggetea egeetgtaat eeageaett gootggggtg gototgggoo agtatgcatg otgatagoaa cooggoaagg otgottotoc ottagtgott cottttgcot

ggtocticc igtaaaocac tigtagigaa taacaaggag aaatctaatc tgtiatigga ggoctagacc ctegigaag;

Homo

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ggictaagci ccicccaggg cigigiggai cigacagggi ataggaaaai aaaaagcgga gaaggigici icag MNPPSGPRVP PSPTQEPSCM ATPAPPSWWD SSQSSISSLG RLPSISPTAP

gatcalgca actotgacto tgcatggtgo tgttggctgt gctgtggcat gataagagta catgtgtgtg ttgatgaggg taggaggtct cictgicact giaacaccca gigacacgig actaagcaig ccctaaigig icigcittaa gcigigcaig igacigagig igggiggiai ttgcaggca cgctctcgcg lagtlaccta tctgaatgca caccaagcac atgcgtgcac actctgcglc tgtgattcat ttcatglagt agottticci igicigocig gggitototg igacicigag aigototgag cagggootgo ataiggiotg cacaigigig igigigigi ggacctiggg galtiggcagt gggggacala ggagaaggga agaggaggcg gagglgglag gagcagtiggg aaggcccat agaccaaaga aggaagtgct gcagggcagg aaagggatga cccatttaag gacagcagga gcgggggtga tgccagagtc agcccaggca ctgtgcatgc cataaacgcc aggacaaagg cctggcagtg accccaggc tggccaggca ctgatgaaag gcaagcaaat gggeggicce telaeggica gggtelggag gaettggaag ccaaggeace coccagacoe cagggaeaeg යෙලුලුක්ටෙමු යැලුයෙලියකු පුලුපුලුලුකුමු (මුළුලුලුකුමුය පටමිකුලටල්) රෙකුලික්වකු ඉත්කයනුගට ආලාලිකටල්) ඉයක්කයෙයෙකු සුලුලියයාදුලුලු ඉකුලුලුකුලට කැක්වූරයේ සුලක්යෙසුලුක් පුරුවටරේ සුකරුවල් පුයෙලිගමුක් ggoctocogo aatgaataco tgitgggagg atgaaggagg gootggtggg gtaagggoag gagcaaagot acggactgto getgecattg aggigtgage aegeagggta etgaaageag aggeaagtee etgaggitee eeaggaagat agaggigaag aagcagagac tccagggaag gigactgggc ccggtacctg ccaatccaca aaggggtgggg ggttagggtc cagtagcoca iccacatgig gaagagga gcggattgga tggtggggt gaaggatggg ttcagttgig acccggggag tcaagagcc aaagccctgg gctgtacctg cagtcgggga gcctcagcct ccctcagcat toccccggg ggcccgcac cctgtcctgg cagggactgg citaggigic tecagacetg acetggggac aggaageet gggaggggt tggtagett tgcagggga ggodgicae iggealagga aggocagoco cgcalcicoc acigocaaca golgaagoog agcacagaoc icociiigca gggagaggco aggaaagaga gacttgitot caigggcacg ggcgatatoc tocaggaatc acotgotocc agcacotocc acacagigoc igicitiggag ggataggoto agggggggtig otgggcagoc atcaacaato accaaacaca igigataago alacacagae ecaggattat getgtgagee tgeaggettt ggaagtggee etgteaeeeg tgetgeaegg gatteaeage gcagocatca gagoatagot ogagoatgtg tgtggocatg tgoocagoac atgotocato actgtagoac otggoacatg ccctaagatc aggatgicac coggaatact tgtggctatt aaaagaaggc cagctgtogg cccaagtgcc tatggaacgg ggggagcaic ccaggagaig ctctgtaggc agcgitaggc gitaccagct citactctgg gatgtggact ctgggaaggc ccalecciga eccaggacae aaediggeee tiecaigcaa ecteceecae igeleggiga eccagigigi ggagggicai ocicicacot cacagicaci cicicacotc ocicagggoi ggacacacai ggaggoagca goigigggg gagoigooca ogggagactg coccagiga actgetecte agetaaacag aigigigetg titgitigea gaccaagggg etgateeca gctgcaattg tccaggcgat gacaatggtg atggctccag agaacacacc agctatttat gagcctctgc coccaggctg cacatacaca caccctagga caggcatgca caatttacgg ggtitatttg gtgaccggca acggtgcaaa tggtgfcagg glaccitcit gigtgacige gaggitggae ataccigggg aggaagggge igtaagcigt ggatgigete accataaatg gocaggacoc caggaigiag gacgoocact ggetetecet itetietgag acacatecag ecceecacg teteceteat occagococa iggococtot ocacacotoa aaactootgo cocataacgi cotocgoato caotiticoag otoagoagoc gracocgagg ctragcotga ggggtgtgtg cocaggcoot cocacttocc gagttgtotg cototocica aalgotgtgt aatgitgatg gegattagag aaggecatat tetggaacae tagaaatgte gtgtgeacag geteccaage agecettege occagcigae ageteoceat etgeocetee tgreacacoe acaeaacace eteageteag eteetggget etetocaget ocacoccatot attoaaaaat ataaatagoc actitottag caaggigigo oggigigoag atggggagoa aacotgoaca lecctageta giceaaggee aaaggeaeat teetgeetge etiteiteet gagigeigig eeetgigea teeaagaaeg egetggaaca gitacteace tgtggettet teccocagig tacegiteca eigiggecea eatietigig eaegegggea

AAF24978.1

Melanopsin

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sapiens	Homo sapiens	Homo sapiens	Ното
	∢	<u>a</u>	∢
GTWĄĄAWVPL PTVDVPDHAH YTLGTVILLV GLTGMLGNLT VIYTFCRSRS LRTPANMFII NLAVSDFLMS FTQAPVFFTS SLYKQWLFGE TGCEFYAFCG ALFGISSMT LTAIALDRYL VITRPLATFG VASKRRAĄFV LLGVWLYALA WSLPPFFGWS AYVPEGLLTS CSWDYMSFTP AVRAYTMLLC CFVFFLPLLI ITYCYTFIFR ARETGRALQ TFGACKGNGE SLWQRQRLQS ECKMAKIMLL VILLFVLSWA PYSAVALVAF AGYAHVLTPY MSSVPAVIAK ASAIHNPITY AITHPKYRVA IAQHLPCLGV LLGVSRRHSR PYPSYRSTHR STLTSHTSNL SWISIRRRQE SLGSESEVGW THMEAAAVWG AAQQANGRSL YGQGLEDLEA KAPPRPQGHE AETPGKTKGL IPSQDPRM	alggalacag geocogacca grotactric tocggoaate actggiticgi citcleggig tactricica citticciggi ggggciocc cicaaccige tggocodgg ggcaagcige agegococc ggtggcogig gaogigcioc tggcaacci gaocogcoc ggggcogig gaogigcioc tggcaacci gaocogcoc gaocigcioc tgccaacci gaocogcoc gaocigcioc gaocogcoc gaocigcioc tgccaacci ciggaccia ciggaccia cittoria cicaaccoccia cittoria cicaaccoccia cittoria cittoria cicaaccoccia cittoria cittor	MDTGPDQSYF SGNHWFVFSV YLLTFLVGLP LNLLALVVFV GKLQRRPVAV DVLLLNLTAS DLLLLFLPF RMVEAANGMH WPLPFILCPL SGFIFFTTIY LTALFLAAVS IERFLSVAHP LWYKTRPRLG QAGLVSVACW LLASAHCSVV YVIEFSGDIS HSQGTNGTCY LEFRKDQLAI LLPVRLEMAV VLFVVPLIIT SYCYSRLVWI LGRGGSHRRQ RRVAGLLAAT LLNFLVCFGP YNVSHVVGYI CGESPAWRIY VTLLSTLNSC VDPFVYYFSS SGFQADFHEL LRRLCGLWGQ WQQESSMELK EQKGGEEQRA DRPAERKTSE HSQGCGTGGQ VACAES	caagactgct cotototgcc gactacaaca gattggagcc atggctttgg agcagaacca gtcaacagat tattattatg
	NM_005304	NP_005295.1	NM_016557
	G Protein-Coupled Receptor GPR41 & GPR42	G Protein- Coupled Receptor GPR41 & GPR42	C-C Chemokine
	190627	190627	190701
	604	605	909

caagactgct cototogoc gactacaaca gattggagoc attggctttgg agcagaacca gtcaacagat taitattatg
aggaaaaiga aaigaaiggc acitatgact acagtcaata tgaactgaic tgratcaaag aagaigtcag agaattigca aaagttitoc
tocotgratt cotoacaata gttitogica ttggacttgc aggcaattoc atggtagtgg caattatgc ctattacaag aaacagagaa
ccaaaacaga tgtgtacaic otgaattigg otgagcaattocat cattocatc igocittitig ggctgtaat gcagticatg
ggtggttit agggaaaata atgtgcaaaa taactcagc cttgtacaca ctaaacttig tototggaat gcagttaat gcagticatg
gcatagacag atatgtggca gtaactaaaag tococagoca atcaggagtg ggaaaaccat gctggalcat ctgtitotgt
gtctggatgg ctgcaatott gctgagcata coccagocg titttatac agaaaatgac aatgctaggt gcattoccat ttococogc
tacctaggaa calcaatgaa agcattgat caaalgctag agatotgcat tggattigta gaccottic ttatatggg gtgtggcac
titatcacag caaggacact catgaagatg ccaaacatta aaatatotog accoctaaaa gttotgotca cagtogtata agitticatt
gtcaccaac tgocttataa cattgccaag tcacagaacat catotactoc otgatcacca gotgcaacat
gagcaacat gcgtaaaggt cacaagaaagc atogcactot ttcacagctg cotcaaccca atocttatg

Receptor 11

sapiens

sapiens sapiens Homo ⋖ ሷ GKPCWIICFC VWMAAILLSI PQLVFYTVND NARCIPIFPR YLGTSMKALI QMLEICIGFV aaatgaacaa tataggaaaa taattgtaac aggcataagt gaataacact ctgctgtaac gaagaagagc tttgtggtga taattttgta gttitgacai tatagtataa itatgtaaga iggaaccatt ggggaaaaci gggtgaaggg tacccaggac cactcigtac calctitgta acticcigtg aatitataai aatitcaaaa taaaacaagi taaaaaaaaa cccactaigc tataagttag gccatctaaa acagattat gatacatatg aalgatgett teeeeteaaa taaaacatet geattattet gaaaeteeaaa teteagaege egtggttgea aettataata citiggitigo agiggigoti alacaaatot acacaagiga laaaalgaca cagaaciala tacacacalt glaccaatti caattioolig VPFLIMGVCY FITARTLMKM PNIKISRPLK VLLTVVIVFI VTQLPYNIVK FCRAIDIIYS stggaggagt tteettitga ttetgagggt eetacagage eaaecagtae tittageati taaaggtaaa aetgetetge ettitgettg aagaatgggt tgggggaagg gggagaaata aaagccaaga agaggaaaca agataataaa tgtacaaaac atgaaaatta aaagaggitc atgitaaaag gcattiataa ttattittaa itaiciaagi titaatacaa gaacgattic cctgcataai titagtacti gaataagtai gcagcagaac tocaactatc tittiticctg tittititaa attigtaagi aattitataa aatocaccic clocaaaaaa gattigggga gitaigcgcc agigccccag igaccgcggg acacggagag gggaagicig cgitgiacai aaggacciag ggactecgag ettggectga gaaccettgg acgecgagtg ettgoettae gggetgeaet ceteaaetet getocaaage agecgetgag etcaaetoet gegtecaggg egttegetge gegecaggae gegettagta eccagiteet gggetetete iteagraget gettigaaag eteceaegea egteeegeag getageeigg eaacaaaaet ggggtaaaee gtgttatett ttitategg agcatctitc aaaaactacg ttatgaaagt ggccaagaaa tatgggtcct ggagaagaca gagacaaagt VFVIGLAGNS MVVAIYAYYK KQRTKTDVYI LNLAVADLLL LFTLPFWAVN AVHGWVLGKI MCKITSALYT LNFVSGMQFL ACISIDRYVA VTKVPSQSGV MALEQNQSTD YYYEENEMING TYDYSQYELI CIKEDVREFA KVFLPVFLTI LITSCHMSKR MDIAIQVTES IALFHSCLNP ILYVFMGASF KNYVMKVAKK YGSWRRQRQS VEEFPFDSEG PTEPTSTFSI 32322 NP 057641.1 NM 016568 Coupled Receptor C-C Chemokine Receptor 11 190701

607

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609

	Homo	Homo sapiens
	۵.	∢
geggagoegg acctgotota ctaccoaoot ggoglogigg totacagogg ggggogotac gaootgotge coagoagote tgootactga ogcaggoote aggoccaggg ogogooglog gggcaaggtg goottooog ggoggtaaag aggtgaaagg ateaareaare ecteree	MOMADATIA TIMIKAAGGDK LAELFSLVPD LLEAANTSGN ASLQLPDLWW ELGLELPDGA PPGHPPGSGG AESADTEARV RLISVVYWV VCALGLAGNL LVLYLMKSMQ GWRKSSINLF VTNLALTDFQ FVLTLPFWAV ENALDFKWPF GKAMCKIVSM VTSMNMYASV FFLTAMSVTR YHSVASALKS HRTRGHGRGD CCGRSLGDSC CFSAKALCVW IWALAALASL PSAIFSTTVK VMGEELCLVR FPDKLLGRDR QFWLGLYHSQ KVLLGFVLPL GIIILCYLLL VRFIADRRAA GTKGGAAVAG GRPTGASARR LSKVTKSVTI VVLSFFLCWL PNQALTTWSI LIKFNAVPFS QEYFLCQVYA FPVSVCLAHS NSCLNPVLYC LVRREFRKAL KSLLWRIASP SITSMRPFTA TTKPEHEDQG LQAPAPPHAA AEPDLLYYPP GVVVYSGGRY DLLPSSSAY	ggcacgagga tittactgct grotcaagat cagattatta ctgragagaa gattttatt tittgtitca ttaacagatt attataaagc aaaaagcatg cagaaaaga agcagacgt ttacattggg aattaatgaa agcgtgtctg ctagttttgg gtaggagaac ttgggaaagtg cagaaaagga aatgcagat ttacattggg aattaatga aagcgtgtctg ctaggagaac ttgggaagtg ttgctaaga attaataca coccacaaa caaaactctt cggaaatggt aaaataagaa aatgcatgat tctaagaggca ttcctaagac cocactgtc aggattgtg gtgtctgtgg tatcatccga ccgtttggac tggttagggc ttactgagat tctataggac tggttagggc ttactgagag ctacttgt ggaaaagcctt acaagactga aggaaatatcag actgcgaatc accgggaacg gttcctttgc aggaacggca gaaatatctg atgggaaga caattgtct accattctt gcatattctg atgggaaaaac aagtggaaga aaagaggaag catgactgca gatcagatca
	NP_057652.1	NM_018970
	G Protein- Coupled Receptor SALPR	G Protein-Coupled Receptor GPR85 (SREB2)
	190705	190711

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	Coupled Receptor GPR85 (SREB2)	G Protein-	Coupled Receptor	GPR26	G Protein-	Coupled Receptor	GPR26					Sreb3
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gatgcaggag gagtataa MYKDCIESTG DYFLLCDAEG PWGIILESLA ILGIVVTILL LLAFLFLMRK IQDCSQWNVL PTQLLFLLSV LGLFGLAFAF IIELNQQTAP VRYFLFGVLF ALCFSCLLAH ASNLVKLVRG CVSFSWTTIL CIAIGCSLLQ IIIATEYVTL IMTRGMAFVN MTPCQLNVDF VVLLYYVLFL MALTFFVSKA TFCGPCENWK QHGRLIFTV LFSIIIWVVW ISMLLRGNPQ FQRQPQWDDP VVCIALVTNA WVFLLLYIVP ELCILYRSCR QECPLQGNAC PVTAYQHSFQ VENQELSRAR DSDGAEEDVA LTSYGTPIOP OTVDPTOECF IPOAKLSPOO DAGGV	ceggcaggg gegractic cigaagagg coctegical agracoctig aagacagca tiggcatgg gegrocaacc agagoctigg cigggagca gegriggac cacaaagac tiggtgatg goctegact goctetic cigitoccag gegregact geategaca gegregaca aggectcaac cocctgact acaacctgg tracegact gegregage caggctgg cagggagg geatiggac cagggagg geatiggac cagggagg geatiggac cacaggagg geatiggac cacaggaggagg geatiggac cacaggaggagg geatiggac cacaggaggaggaggaggaggaggaggaggaggaggagga	MGTQPEPGLG ARMAIHKALV MCLGLPLFLF PGAWAQGHVP PGCSQGLNPL YYNLCDRSGA WGIVLEAVAG AGIVTTFVLT IIL VASLPFV QDTKKRSLLG TQVFFLLGTL GLFCLVFACV VKPDFSTCAS RRFLFGVLFA ICFSCLAAHV FALNFLARKN HGPRGWVIFT VALLLTLVEV IINTEWLIIT LVRGSGEGGP QGNSSAGWAV ASPCAVANMD FVMALITYVML LLLGAFLGAW PALCGRYRRW RKHGVFVLLT TATSVAIWVV WIVMYTYGNK QHNSPTWDDP TLAIALAANA WAFVLFYVIP EVSQVTKSSP EQSYQGDMYP TRGVGYETIL KEQKGQSMFV ENKAFSMDEP VAAKRPVSPY SGYNGQLLTS VYQPTEMALM HKVPSEGAYD IILPRATANS QVMGSANSTL RAEDMYSAQS HQAATPPKDG KNSQVFRNPY VWD
NP_061124.1	NM_018653	NP_061123.2
G Protein- Coupled Receptor GPRC5D	G Protein-Coupled Receptor	G Protein- Coupled Receptor GPRC5C
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190745 G Protein-Coupled Receptor LGR7	G Protein-	Coupled Receptor LGR7
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DLQKLYLQNN KITSISIYAF RGLNSLTKLY LSHNRITFIK PGVFEDLHRL EWLIIEDNHL
SRISPFIFYG LNSLILLVLM NNYLTRLPDK PLCQHMPRLH WLDLEGNHIH
NLRNLTFISC SNLTVLVMRK NKINHLNENT FAPLQKLDEL DLGSNKIENL
PPLIEKDLKE LSQLNLSYNP IQKIQANQFD YLVKLKSLSL EGIEISNIQQ RMFRPLMNLS
HIYFKKFQYC GYAPHVRSCK PNTDGISSLE NLLASIIQRV FVWVVSAVTC
FGNIFVICMR PYRSENKLY AMSIISLCCA DCLMGIYLFV IGGFDLKFRG
EYNKHAQLWM ESTHCQLVGS LAILSTEVSV LLLTFLTLEK YICIVYPFRC
VRPGKCRTIT VLILIWITGF IVAFIPLSNK EFFKNYYGTN GVCFPLHSED TESIGAQIYS
VAIFLGINLA AFIIIVFSYG SMFYSVHQSA ITATEIRNQV KKEMILAKRF FFIVFTDALC
WIPIFVVKFL SLLQVEIPGT ITSWVVIFIL PINSALNPIL YTLTTRPFKE MIHRFWYNYR
QRKSMDSKGQ KTYAPSFIWV EMWPLQEMPP ELMKPDLFTY PCEMSLISQS TRLNSYS

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gictggggtg gggggggg ggggaaggg tcaattgcct gaagcaagtg ctctcatcc cctagctcct gctgatctag ttgggggtc agagaaagg catttgaaac ttctcgccc ttaccgictt agccalcaaa ctctgagctg gagaaagg ggggaatgg ggttgagcac ctccttctg ccaataggca tagattgagt ggttgagcac ctccttctg ccaataggca tagattgagt ggttgagcac tcttcactc ctagggcaat gggaaggg tccaggaa cgttcaagc actaggtaga ggtgaaactc ctggcaggc acctagaaga ggttgagaac agccaaggta cgttcaagca ccaataggaa ggtgagacc agcgagggc gacaaggaa gagaaaga gacaaagag agcaatcttg agcaatgtg ggaaagac accaaggaa gacaaagag agcaatggct ggaagaacc ctctgcaggag agggaagac ggaagaaga gacaaagag agcaatgtgc ggaagaaga acctaaacca agccaggaa gacaaagag agcaatgtgc ggaagaagc acctaaaccac agccaggaca ttgcatggc ggaagaagc acctaaaccac agccaggaa ttctaaagag atcaggaag ttcttagtgg aggaagaag caataaccac agccaggaa ttctaaagag atcaggcaa tgcaggaag caatggaag caataaccac agccaggaa ttctaagga acgaaaagc cactaatga gagaagaag ttcttgggg aggaagaag gagaagaa gggcaagaa tgcaaaaga gagaagaag caacaaagaga attttgggaa caacaaaga aggaagaag tttttgggaa caacaaaga agcaaaggaag tttttgggaa caacaagaga accaataacaa agaagaaga tttttgggaa caacaaaga agcaaagaa agaagaaga agaagaacaagacaagaa agaagaacaagaacaagaacaagaaaagaaaagaaaagaaaaaa	ACCORDED BEANGER INCARENCE SEACH CANDESES IN THE SEACH CANDESES OF THE SEACH CANDES	alggicant caragigest gaaggeste gagging stripping guigging gligatorig gragotigue ligaggings ggaatgesta caragigest gaaggeste grantpoorig gastactige grantpoorig gastactigue gastactigue gastactigue gastactigue gastactigue grantpoorig gastactigue gast	gaccccgag uggcaggag ggcggagccc cgcalaccag gggccacctg agagtictc ctctga MANSTGLNAS EVAGSLGLIL AAVVEVGALL GNGALLVVVL RTPGLRDALY LAHLCVVDLL AAASIMPLGL LAAPPPGLGR VRLGPAPCRA ARFLSAALLP ACTLGVAALG LARYRLIVHP LRPGSRPPPV LVLTAVWAAA GLIGALSILG PPPAPPAPA RCSVLAGGLG PFRPLWALLA FALPALLLLG AYGGIFVVAR
<b>AX</b> 147756	CAC39548.1	AF317653	AAK12638.1
GPCR Ls190748	GPCR Ls190748	G Protein- Coupled Receptor GPR62	G Protein- Coupled Receptor GPR62
190748	190748	190749	190749
624	625		627

Homo sapiens

RAALRPFRPA RGSRLRSDSL DSRLSILPPL RPRLPGGKAA LAPALAVGQF AACWLPYGCA CLAPAARAAE AEAAVTWVAY SAFAAHPFLY GLLQRPVRLA LGRLSRRALP GPVRACTPQA WHPRALLQCL QRPPEGPAVG PSEAPEQTPE LAGGRSPAYQ GPPESSLS

NM 021624

Histamine H4 Receptor

190774

628

< gaaccaagat gaatagcaat acaattgctt ccaaaatggg ttocttctcc caatcagatt ctgtagctct tcaccaaagg gaacatgttg caaggagatc tetticigea tegacagaag itecigeate etiteatica gagagacaga ggagaaagag tagteteaig titiecieaa laagagatgg tgaagagact gcatgattaa actagataga cctggtatac agtcactgaa ctagtagatg tcaataatta ttattttaa aaatgetgig tettalagaa eteaacatae tggggtettg aagattgita etetgatggt ggeegtitgg gtgetggeet tettagtgaa igggecaatg attetagiti cagagtetig gaaggatgaa ggiagigaai gigaaccigg aittititeg gaatggiaca teetigecai aactgettag agccaggaga ttagccaagt cactggccat tetettaggg gtttttgetg tttgetggge tecatattet etgiteaeaa ggecatetet gaettettig igggigigai etecatieet tigtaeatee eteacaeget gitegaatgg gatttiggaa aggaaatetg cacateatte tiggaatteg tgateecagt catettagte gettatitea acatgaatat ttatiggage etgiggaage gigateatet atectettit gratecatig (greacaage getticaaaa ggettietig aaaatattit grataaaaa geaaceteta ecaleacaae ggaagactac acattttagg tatgigatta gaaaacatac ttgicagaat igictggctg gattaattig ctaatttgac cticticatc acagreggte agratettet taaagaeaat titeleaeet eigtaaatti tagteteaat etaeetaaa tgaateaggt etgeeetta ictigocott ticatictac caacagatot gcactitigaa gicaatiggia aattactoca gigaataata gcagiataat atgactigat giaittigg cicactactg actaicigit aigtacagea teigtatata acattgicet cateagetat gategalace igicagiete gazagtaig gettgtecea ittetteetg tietetiiti etagetteea eateagette etittitgag aacatalaga agaagaege gctataatg ctaggaaatg ctttggtcat titagctttt gtggtggaca aaaaccttag acatcgaagt agttatttt ticttaactt attigatgig atgecagata claatageae aateaattia teactaagea etegtgitae titageatti titatgieet tagtagetti it glocitic attitation teageaacag grociaaate agtitiggiat agaatigeat ittiggetiea griggiteaat teetiigtea galcagigg gigggigagg tagggittga gitggcaaga gcagggaacg ggcatgigc caggigagci ccigigigig aggicotcag igaagitait itggaggcoc iggiggicac aggaicagaa ggcaagggai aggcagtggt caocaaiggi tracaaaaat ccagtttigt iiictticta igitocaige ataatacagt citaagigaa tiictcttii ttaattitat egtaatagaa aatattttig taaactigta gicataatag tactatatic ticttagicc icaccictic ctigictttt agaicttaat ticatgciga azattittat itgitggccg ggcatggtgg ctcacgcctg azatcccagc actitgggag gccaaggtgg gcggatcatg ccagaittt atattoctaa toocagtaag gaagaaagog tagtgiggga gaggagagag otgatgacig cagttotoaa acttatccag tttgaaaatc attocctaaa gcatgcaata ggaaaaagaa cotoctggct gggactgocc aactctgtto caglaggige caaagocate eiggactgae igetgietet tocaacatet giggacacte atteagaggi agactatett

adalutura tigingicog giocalgingig cracigodig adartocago actingigaig gocalaging gocalaging deglaticagog attentata tigingicog giocala calegigada cocalidig attanalac adacaaging ciggitaging aggicagoga attentata accaatoga attanalac adacaaging ciggitaging cocacago ciggitaging ciggicaaca gagcaagac cigricaaaa agaaaaaaaa attititig tigagacago alcitigotot giotocago ciggiagoga gaatacagoga ciggicaaca gagcaaca calagcicac tegococa agaatagaa attanaga actacagoga cigcicact tegococa agaatgigo adatacagoga cicacagoga cigcicac tegococa agaatgigoga actacagoga cicacagoga cicactigiti tanaaaaag gittitigag acagatott giototacac coagotiga giocagaigo atgaicaat aattatiti tanaaaaag gittitigag acagatott giototacac coagotiga giotogaatit tititititi tantitigat aagacagoga attogococa giotocaaac giotocaaac toctgigoda adacaaloct cocgoctigg cotoccaaag tigitigata adagacacaa aattatiga ataatatat tanaaatatig tigiattac tanatgicti tanagacatt gocaaaatt tacattgt actacaaa egaatcct tataatgiga tagacaagot talaatgicti ataatgicut tanatgicat tanagatti tanaaatatt giotacaaac tanatgicut ataatgicut ataatgicut tanagacatt gocaaatt tacattgt actacaaga ggatticata tataatgigg tagacaagog talaacattig cigacgattic

	Homo	Homo sapiens	Homo sapiens	Homo sapiens
	Ω	∢	۵	∢
acattitati agtitggita tgititgico tittaaaaca tittotitig agaitgggggi ctigototgi tgoccacgoa ggagtgcagt ggoatgotot cagotocacgo egaagtgcac ggoatgotot cagotocacgo egocotgac tgocagoo egocagototocaga tagotoggac ogcaggacot tgocaccacg coccactaaa aattittaaa attgitgot ticttgaagt gitototgoc tgictitigto acaaaatitic attitotoca tagtaatit catotococg gtaagatit attggtgtti ctitiataac titigoagito tacaccgit tggtgaliti caigiticit agaaaactita aacctitaac ticaaacati aaaatacaag totittaagt acatgagigo tagaaaigt acataatgit talatacact tagocctac attaaagico aatatgagaa atacatgiti aacaticaat aataatitta aaaaattigag aaataaago totaaaatgo	MPDINSTINL SLSTRVITLAF FMSLVAFAIM LGNALVILAF VVDKNLRHRS SYFFLNLAIS DFFVGVISIP LYIPHTILFEW DFGKEICVFW LTTDYLLCTA SVYNIVLISY DRYLSVSNAV SYRTQHTGVL KIVTLMVAVW VLAFLVNGPM ILVSESWKDE GSECEPGFFS EWYLLAITSF LEFVIPVILV AYFNIMNIYWS LWKRDHLSRC QSHPGLTAVS SNICGHSFRG RLSSRRSLSA STEVPASFHS ERQRRKSSLM FSSRTKMNSN TIASKMGSFS QSDSVALHQR EHVELLRARR LAKSLAILLG VFAVCWAPYS LFTIVLSFYS SATGPKSVWY RIAFWLQWFN SFVNPLLYPL CHKRFOK AFI. KIFCIKKOPI. PSOHSRSVS	cocagacta gaactacca gagcaagac acagciggg aacagiccag gagcagacaa gaiggagaca aattocicic toccagacta gaactaccaa gagcaagac acagciggg aacagciggg tegistatic toctggata tcatcactta totggattt geagtcact tigtoctogg gegoctoggg aacaggctig tgaictiggg ggotggattc cggatgaca cacacagtcac caccalcagt tacctgaac tigtoctogg ggotggattc cggatgaca cacacagtcac caccalcagt tacctgaac tigtoctoggac tacticity tracctoca ctitgccatt citcatiggt aggaaggca tggatgaca tggatgaca tggagagaca tgggoctic ggtgtitigog toctgcatoc agtotggacc cagaaccac gcaccgtgag cctggccaag aaggtgatca ttgggoctig tggttitigog toctgcatoc agtotggac cagaacacc gcaccgtag cctggaca gagaggaca gagaacgc tittaactt ttcgccctgg accaacgacc ctaaagagag galaaatgtg gccgttgcca tgttgacgg gagggaca gagaggaca tttaactt ttcgccctgg accaacgacc ctaaagagag galaaatgtg gccgttgcca tgttgacaca agalccacaa gaggctaca ctttaactt ttcgccctga accaacgacc toctttgag ttattgacag tattgcagt attgcccca attgcccaa agalccacaa gaaggctg attatgcaa accatigc aagaattgg tattgcagt gattgacaca attatactta accatiga aacaagaca accaagaca accaticaac aagaagaga acttcaggaga acttccagga gattgacaa attacttit acctictaca accaatgca aacaagaga acttccaga acaagacaa attacttit acctictga gatgggaga accttlegag cacaacaaca aacaagacaa agaaaaaaa aaaaaagcat tacgtgaga aacttcgaga aacaacaa aacaaaaaaaaaa	BARREGER IN ISGGTPAVSA GYLFLDIITY LVFAVTFVLG VLGNGLVIWV AGFRMTHTVT TISYLNLAVA DFCFTSTLPF FMVRKAMGGH WPFGWFLCKF VFTIVDINLF GSVFLIALIA LDRCVCVLHP VWTQNHRTVS LAKKVIIGPW VMALLLTLPV IRVTTVPGK TGTVACTFNF SPWTNDPKER INVAVAMLTV RGIIRFIIGF SAPMSIVAVS YGLIATKIHK QGLIKSSRPL RVLSFVAAAF FLCWSPYQVV ALIATVRIRE LLQGMYKEIG JAVDVTSALA FFNSCLNPML YVFMGQDFRE BI HAI PASI FRAI TFDSTO TSDTATNSTT PSAFVFI OAK	alggaaaca acticiccal tecteigaal gaaacigagg aggigeicoe lgagotigei ggecacaoeg iteigiggai eticicatig ciagicace gagicacett igicticggg gieelgggea algggetigi gateigggig geiggatice ggaigacaeg
	NP_067637.2	NM_002029	NP_002020.1	NM_002030
	Histamine H4 Receptor	Formyl Peptide Receptor 1 (FPR1)	Formyl Peptide Receptor 1 (FPR1)	Formyl Peptide Receptor-like 2
	190774	190823	190823	190824
	629	630	631	632

alcaccacce ceatggagae tigtgaegae alcaaegagt gigeaacaet giegaaagig icaigeggaa aatitelegga

ggtggtgccc tcaggactcc tcgtgtgtca atgccaccgc ctgtcgctgc aatccagggt tcagctcttt ttctgagatc

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	Homo	Homo sapiens
	<u>α</u>	∢
cacagicaac accatotigit aoctgaacci ggocotagot gaotitotti toagigocai oxtaocatic ogaaliggici cagiogocai gagagaaaa tigocittig optcattoci atglaagita gitcatgita tgalagacai caaoctgitt gitcatgici accigalica caicattigot otgeatoca gotoggoco agaaocatog caocalgagi tigocoga gagacocgot galittigigi oxtgaaloca gotoggoco agaaocatog caocalgagi tigocoaga gagacocgot galittigigi oxtgaaloca gotoggoco agaaocatog caocalgagi tigocoaga dagacactgo tigagagagi ticatotot gactacaat aaglactacg aaligggaca calactgiai titocactai taitggotic acgiggocta tigocatca cacagicigo taitggatca togotocaa aattcacaga aaccacalga tiaaatocag oxglocotta ogigtoticg otgotiggig gottotitic ticatotgit ggitocotta tgaactaati ggoatictaa tiggeagicig gotocaaga aggacacaa caagicotgi gotocaaga aggatitaa atggocaata cacagicigic taitgociga taaoccaac aagicoctti gootitiita acagocaga caaocaca taitgotoga taaoccaac aagicoctti gootitiita acagocaga toagocaga ocagcaacac acacacact togoticac coctgaga gaoctga tiagagaggg oxocaga taaocaaga gagagagaga gacagaga acacacaca tagoticac coctgagga gacggagtta	METNFSIPLN ETEEVLPEPA GHTVLWIFSL LVHGVTFVFG VLGNGLVIWV AGFRMTRTVN TICYLNLALA DFSFSAILPF RMVSVAMREK WPFASFLCKL VHVMIDINLF VSVYLITIIA LDRCICVLHP AWAQNHRTMS LAKRVMTGLW IFTIVLTLPN FIFWTTISTT NGDTYCIFNF AFWGDTAVER LNVFITMAKV FLILHFIIGF TVPMSIITVC YGIIAAKIHR NHMIKSSRPL RVFAAVVASF FICWFPYELI GILMAVWLKE MILNGKYKII LVLINPTSSL AFFNSCLNPI LYVFMGRNFQ ERLIRSLPTS LERALTEVPD SAQTSNTHTT SASPPEETEL QAM	cggagacggg acagcoctgt cocactcact ctitccoctg ctgctcctgc cggcagctca gctggaacca tgggaggccg cgtctitictc gictitictcg catictgfgt ctggctgact ctgccgggag ctgaaaccca ggactccagg ggctgtgccc
	NP_002021.2	NM_013447
(FPRL2)	Formyl Peptide Receptor-like 2 (FPRL2)	190948 EMR2 Hormone NM_013 Receptor
	190824	190948

633

634

	Homo	Homo sapiens
	Δ.	∢
agcacctcac igcalctigca getetegete igenetice iggoccacci extetiecte giggeantig ateaaacegg acacaaggig etgigeteca teategeegg iaectigeae tateteaec iggocaccit eactigaag etgigegag eccigaage teategaage tateteaec agcatcaaca gaticalgaa gaagctcaig itecetigigg getaecggage caagtiggeae titeteaeaca agcatcaaca gaticalgaa gaagctcaig itecetigigg getaecggag eccaacaacag aaaagggati talatigggge ticetiggac etgetigege catetiect gigaattiag tatetitete gggaatete (gggatete iggaatete iggaattiag teetitete gggaatete iggaatete iggaatete iggaatete iggaatete gggaatete iggaatete iggaatete iggaatete iggaatete gggagggaggaataa agggigteteg ggcatctige aggigtigg gaategaaca aggagggaggaataaca aggaggigteteg ggaatetigg gaategaataa aggagteteg gagatetega aateggicaa agggalcagg aaattgaaaa etgagtetig gategeete eatetetega aateggicaa aggalcagg aaattgaaaa etgagtetig tatgatatea gateacaca etetecaga ggagtataig eatetigaa aateggicaa aggagaagaa aagactitgi ietigtigti teaagaati caccatgaa gacaatatgaa aaaatetigaa eaacactigaa eaacactigaa gaaaatataa aategaagga eetiecaaa ategaagga eaatatiga gaaaaaataga aagactiga iatecatga gaaaaaaaa eaacaatega aaaaatetaaa aagaactaga aaaaatetiga gaaaaaaaaaa etetecataa aagaactaaa aagaactaa aagaagaaa aagaateaaaaaaaaaaaaaaaaaaa	MGGRVFLVFL AFCVWLTLPG AETQDSRGCA RWCPQDSSCV NATACRCNPG FSSFSEIITT PMETCDDINE CATLSKVSCG KFSDCWNTEG SYDCVCSPGY EPVSGAKTFK NESENTCQDV DECQQNPRLC KSYGTCVNTL GSYTCQCLPG FKLKPEDPKL CTDVNECTSG QNPCHSSTHC LNNVGSYQCR CRPGWQPPG SPNGPNNTVC EDVDECSSGQ HQCDSSTVCF NTVGSYQCR CRPGWQPPG SPNGPNNTVC EDVDECSSGQ HQCDSSTVCF NTVGSYSCRC RPGWKPRHGI PNNQKDTVCE DMTFSTWTPP PGVHSQTLSR FFDKVQDLGR DYKPGLANNT IQSILQALDE LLEAPGDLET LPRLQQHCVA SHLLDGLEDV LRGLSKNLSN GLLNFSYPAG TELSLEVQKQ VDRSVTLRQN QAVMQLDWNQ AQKSGDPGPS VVGLVSPFGM GKLLAEAPLV LEPEKQMLLH ETHQGLLQDG SPILLSDVIS AFLSNNDTQN LSSPVTFTFS HRSVPRQKV LCVFWEHGQN GCGHWATTGC STIGTRDTST ICRCTHLSSF AVLMAHYDVQ EEDPVLTVIT YMGLSVSLLC LLLAALTFLL CKAIQNTSTS LHLQLSLCLF LAHLLFLVAI DQTGHKVLCS IIAGTLHYLY LATFTWMLLE ALYLETARN LTVVNYSSIN RFMKKLMFPV GYGVVPAVTVA ISAASRPHLY GTPSRCWLQP EKGFIWGFLG PVCAJFSVNL VLFLVTLWIL KNRLSSLNSE VSTLRNTRML AFKATAQLFI LGCTWCLGIL QVGPARVMA YLFTIINSLQ GVFFLVYCL LSQQVREQYG KWSKGIRKLK TFSFMHTT SS SAK ADTSKPS TVN	gecaticici cacalcogi geggicagga agocoticat gaadtetgac itcagitett getgeggitt etgocoatti titicatate cicigacage tgegggica tetegeragga agocotica gaggaace cagagagge tetggaaagg itaagggace tetggaaagg taagggace tetggaaagga taagggace tetggaace cattatact itgcalcut cotgagaag gaggitgaa agggaaggag gaaggcocat ggicagattg aaggaaggac tititagitt citititit titigaaat ggagtetege tetgcatte aggetggagt geagtggige gateteaget cactgcagec tecacitect gggitcacat gaitetectg octeagocic ocaaglaget gagaclacag gcacatgoca
	NP_038475.1	NM_000752
	EMR2 Hormone Receptor	Leukotriene B4 Receptor BLT1
	m	••

190948

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190955

ctacacccag ctaactitig taititiagt agagacgggg titicaccatg tiggocagge tggictcaaa ctgctaacat caagtgatct

	Homo sapiens	Homo
	<b>፫</b> .	4
gettoectra gectecaaa gigetgggal tacegalaig aaccacaa accigecagg autituagt tittagetti tigaggagar titaaggagaa gegagarat tictigtueg gaaaegga aggagacat tictigarigh etgigtuco cittiggaeg gaggagat gigetgggagga gigetaate citaactic gettoeggacatic criticotag craactigg aggagagaa aggagaaat aggagaat gaaagggg gigecaatic criticocag atcataate capacitag gaaagggag gigetaate criticocag atcataate capacitag gaaagggg gigetaaca citiggaat titiggataa acaaaggag gigetaaca atggaaca gicaaaata capacitaga caaaggaag cattiggaa titiggataaca atggaaata gigegaati gigtaaca atggaaca gicaaagaca atcataata caaacaagaga aacaacaaaa agataaca tagaaca atggaaca gigaaca gigtagaaca attiggaa titigaaca atgaacaa attigaacaa atgaacaa aacaacaaaa agataacaa caaacaaaa agataaaa caaacaaaa agataaaa caaacaaaa agataaaa caaacaaaa agataaaa caaacaaaa agataaaa caaacaaaa agataaaa aagaacaa aacaacaa agataa aacaacaaa acaaacaaa acaaacaaaa acaaacaaa acaaacaaa acaaacaaa acaaacaaa acaaacaaa acaaacaaa acaaacaaa acaaacaaaa acaaacaaaa acaaacaaa acaaacaaa acaaacaaaaaa	MNTTSSAAPP SLGVEFISLL AIILLSVALA VGLPGNSFVV WSILKRMQKR SVTALMVLNL ALADLAVLLT APFFLHFLAQ GTWSFGLAGC RLCHYVCGVS MYASVLLITA MSLDRSLAVA RPFVSQKLRT KAMARRVLAG IWVLSFLLAT PVLAYRTVVP WKTNMSLCFP RYPSEGHRAF HLIFEAVTGF LLPFLAVVAS YSDIGRRLQA RRFRRSRRTG RLVVLIILTF AAFWLPYHVV NLAEAGRALA GQAAGLGLVG KRLSLARNVL IALAFLSSSV NPVLYACAGG GLLRSAGVGF VAKLLEGTGS EASSTRRGGS LGQTARSGPA ALEPGPSESL TASSPLKLNE LN	afgatgocot titigocacca talaattaat atticotgig tgaaaaacaa otggicaaat gatgicogig ottocotgia cagittaatg
	NP_000743.1	AF380185
	Leukotriene B4 Receptor BLT1	Trace Amine
	190955	191039
		638

sapiens	Homo	Homo sapiens
	Δ.	∢
gigoticalea itotgaccac actogitigo aatotgatag tiatigitic tatatcacac itocaaccac itocataccoc aaccaailigg cicaticatt cotiggecat tiggactit citotgggg tiotgggcal gootgacac attiggaal orgotgaga orgitigati itiggagaa totgotgag cotigggaal titiggagaa totgotgag cotiggaal titiggagaa totgotgag cocatigac egotacatig citotgaga aatocacca aacaccgaca taigotgag cotagoccoc attitocati tigotitical tocatigac octocatigac octocatigac octocatigac atticaataga totacataga taitataca aacatigitica ofgoagaga geotgagati tigotitiga categotgaga atticatiga aatgatotti otgagotga acticataga tottitiaa aacotggaal catatatga diggetcat tacagaataga atticacaa goaagataa tagtgatga catataga tagtgotat tatatataga atticacaa goaagataa aagactgg aagacattgg gaatgaga gaatgaga aliticacaa goaagaaag gaaagatga aagacattgg ggattgaa gggattito caatagaa ocottitot toacacaattg tatagaaaga gaaagatga accittitot toacacaa attocacca ottgaatga gggattgatti tiggitiggot actigaacci cacattaat caaagatti tatocattit tatacatti tatagaaaga cactgaagat gatgatgat tiggitiggot actigaacaa tratocacaa cittaaaga gatgattit gaaaaatti titocaaaa caaagatti tatacaacaa caaagatti gaaaaatti tatacaatti tatacaacaa cittaaagaa gatgagatti ggaaaatti toocaaaaaa haanaataa aagaaaaaa aacattaaaaa	MAMPFCHNIIN ISCUCANWSN DVRASLYSLM VLIILTTLVG NLIVIVSISH FKQLHTPTNW LIHSMATVDF LLGCLVÅPYS MVRSAEHCWY FGEVFCKIHT STDIMLSSAS IFHLSFISD RYYAVCDPLR YKAKMNILVI CVMIFISWSV PAVFAFGMIF LELNFKGAEE IYYKHVHCRG GCSVFFSKIS GVLIFMTSFY IPGSIMLCVY YRIYLIAKEQ ARLISDANQK LQIGLEMKNG ISQSKERKAV KTLGIVMGVF LICWCPFFIC TVMDPFLHYI IPPTLNDVLI WFGYLNSTFN PMVYAFFYPW FRKALKMMALF GKIFOKDSSR CKLFLELSS	gegitocaca tragocaca ciocigette tigageacagg gigototoc ettigagota geticigati tigaagoca geatictigo figotogoca cogociggg ettigagoco gocacitiat titotocago ettigalacca getigagagi cocogoca geatictigo tigagagagi ettigagoco gocacitiat titotocago etgagagoti cocigocaci gagacaci galococago gocacitiat tigagagoti geococaci gagacaci galococago etgagagoti etcocococo tigagacaci galococago agocaciago etgagagoti titotogoco gagagoti gocaciago etgagagoti gocaciago etgagagoti gocaciago etgagagoti gagagagoti gocaciago etgagagoti gagagagoti gocaciago etgagagoti gacaciago etgagagoti gocaciago etgagagoti cacicotica accacogoti gocaciagoti gocaciago etgagagoti gocaciagoti gocaciago etgagagoti gocaciagoti etacogogoti cacaciagoti etacogotic gagagagoti gocaciagoti etacogotic gagagacoti gocaciagoti etacogogotic gocaciagoti etacogogotic gocaciagotic gocaciagoti etacogogotic gocaciagotic gocaciag
	AAK71236.1	NM_022049
Receptor 1 (TA1)	Trace Amine Receptor 1 (TA1)	G Protein-Coupled Receptor 88 (GPR88)
	191039	191132

640

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NM 022788

P2Y12 Platelet ADP Receptor

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Coupled Receptor

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ataggaaaa agaacaggat ggtggtgacc caaatgaaga gactccaatg taaacaaatt aactaaggaa atattcaat ctctttggt tcagaactg ttaaagcaaa gcgctaagga agaatattaa ctgacgaaga agcaactaag ttaataataa tgactcaaa gaaacagaag attacaaaag caatttcat ttacctttcc agtatgaaaa gctatcttaa aatatagaaa actaatctaa actgagctg tattagcagc aaaacaaacg ac MQAVDNLTSA PGNTSLCTRD YKITQVLFPL LYTVLFFVGL ITNGLAMRIF FQIRSKSNF1 IFLKNTVISD LLMILTFPFK ILSDAKLGTG PLRTFVCQVT SVIFYFTMY1 SISFLGLITI DRYQKTTRPF KTSNPKNLLG AKILSVVIWA FMFLLSLPNM ILTNRQPRDK NVKKCSFLKS EFGLVWHEIV NYICQVIFWI NFLIVIVCYT LITKELYRSY VRTRGVGKVP RKKVNVK VFI IIAVFFICFV PFHFARIPYT LSQTRDVFDC TAENTLFYVK ESTLWLTSLN ACLDPFIYFF LCKSFRNSLI SMLKCPNSAT SLSQDNRKKE QDGGDPNEET PM	atggigaata attictocca agotgaggot grggagotgi gracaagaa ogigaacgaa tootgcatta aaactoctia cogocaggi octogatota tootclaogo egioctiggi titgggotgi igotggoago gittggaaao taotggica tgatigota octicactic aaacaactgo acacacctac aaactitcig attgggotgi gotggoago gittggaaao taotggica tgatigota octicagoca agotgotgi tiggaaati octicagoca gittggaaao taotggica tgatigot octicagoca agotgotgi tiggaaati ggggacagti actgaaati ocalacalgi titgacacai ctgtgatigo cittagai actgaaati ocalacalgi titgacacai ctgtgatigo aguticaggg atatgcatta gggagagotgi taotgatoc totgaoctai ocaaccaagi taotggic caagotocai gaticagga atatgata gagaggotgi agaacaaca gotticgai ctttacacg ggagocaacg aagaaggaal tgaggaata gagagagotgi tattatata caguagaa tittiggigg ocaagcatca ggotaggaaa atagaaagaa egaaaggotgi tattatott tatacocaa gotcaggaaa aaaagagaga gaaaaggotgi caaaacctig ggaattgota tiggitagti tattatata caguagaa aagaagaaa aaaagaagaa gaaaaggotgi caaaacctig agaattgta tagatgtat tattataati cagcaagaa accocttgat tagottata tgaattitat aactoctoct tattitata agattagaa occottgat tatacaaa aactaatta tatocaatg gittiggaaaga agataaaac ttattgtaag oggcaaaggic taaaggacg attogtcaac aactaattta tatocaatg gittiggaaga agataaaac tattgtaag oggcaaaggic taaaggacg attogtcaac aactaattta tatocaatg gittiggaaga agataaaaac tattgtaag oggcaaaggic taaaggacg attogtcaac aactaattta tatocaatg gattagaaaga agataaaac gagaaaaac tattgaaa agatagaa agatagaa agataaaaac gagaaaaac gagaaaaaac gagaaaaaac gagaaagacaacaacaacaacaacaacaacaacaacaaca	MVNNFSQAEA VELCYKNVNE SCIKTPYSPG PRSILYAVLG FGAVLAAFGN LLVMIAILHF KQLHTPTNFL IASLACADFL VGVTVMPFST VRSVESCWYF GDSYCKFHTC FDTSFCFASL FHLCCISVDR YIAVTDPLTY PTKFTVSVSG ICIVLSWFFS VTYSFSIFYT GANEEGIEEL VVALTCVGGC QAPLNQNWVL LCFLLFFIPN VAMVFIYSKI FLVAKHQARK IESTASQAQS SSESYKERVA KRERKAAKTL GIAMAAFLVS WLPYLVDAVI DAYMNFITPP YVYEILVWCV YYNSAMNPLI YAFFYQWFGK AIKLIVSGKV LRTDSSTTNL FSEEVETD	atgaatgagc cactagacta titagcaaat gettetgatt teccegatta tgeagetget titggaaatt geactgatga aaacatecca cteaagatge actacetece tgitattat ggeattatet tectegtggg atticcagge aatgeagtag tgatatecae ttacattite aaaatgagae ettggaagag cageaccate attatgetga acctggccig cacagatetg etgtatetga ecagectece
NP_073625.1	AF380189	AAK71240.1	AF411109
P2Y12 Platelet ADP Receptor	Trace Amine Receptor 3 (TA3)	Trace Amine Receptor 3 (TA3)	G Protein- Coupled Receptor GPR80
191168	191193	191193	191196
643	644	645	646

YAFFYQWFGK AIKLIVSGKV LRTDSSTTNL FSEEVETD
atgaatgac cactagacta thagcaat gettegatt teccepting triggaatt geactgatga aaacatecca
cteaagatge actaectee tgatattat ggeattate teccepting atticeage aatgeagang tgatateca tractitite
aaaatgagac ettggaanga cagcaccate attatgetga actegoetg cacagatetg etgatetga cagcotece
ettectgatt cactactatg ceagtggega aaactggate tttggagatt teatgtgaa gttateege tragettee atticaacct
gatatagaga atectettee teacetgtt cagcatette egetatetg tgateattea eccaatgage tgetttee atticaaca
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tegatggea gttgageet gtgatetggt gtggateatt teactggtang etgtcattee gatgacette ttgateacat caaccaaca
gaccaacaga teagectgte tegaceteae cagtateggat gaactcaata cattaagtg gaccaacet attitgateng caactactit
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gacaacaaga tegataacca ttegelaet cattacaac attataccac etetgaccaa actgacaact geettaagea
gaaaagcacga aggetaacca ttegelaet cettgeatt taegaagett tracectite tagaccatta gagateatte ggategaate
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taaccigita ciatatgigg tiggicagega caactiticag caggitgict gotcaacagt gagatgoaa gtaagegga accitigagea agoaagaaa attagitaci caaacaacci tiga MNEPLDYLAN ASDFPD AAA FGNCTDENIP LKMHYLPVIY GIIFLVGFPG NAVVISTYIF KMRPWKSSTI IMLNLACTDL LYLTSLPFLI HYYASGENWI FGDFMCKFIR FSFHFNLYSS ILFLTCFSIF RYCVIIHPMS CFSIHKTRCA VVACAVVWII SLVAVIPMIT LITSTNRTNR SACLDLTSSD ELNITKWYNL ILTATTFCLP LVIVTLCYTT IIHTLTHGLQ TDSCLKQKAR RLTILLLLAF YVCFLPFHIL RVIRIESRLL SISCSIENQI HEAYIVSGPL AALNTFGNIL LYVVVSDNFO OAVCSTVRCK VSGNLEOAKK ISYSNNP	<b>6</b>	AACHIBWC VENGERIN EALLEGER ACHIVING INVENIM AAAAGENA AEAFERINA VENGEREN AACHINA WOTTPAWGT ESTTVNGNDQ ALLLLCGKET LIPVFLILFI ALVGLVGNGF	VLWLLGFRMR RNAFSVYVLS LAGADFLFLC FQINCLVYL SNFFCSISIN FPSFFTTVMT CAYLAGLSML STVSTERCLS VLWPIWYRCR RPRHLSAVVC VLLWALSLLL SILEGKFCGF LFSDGDSGWC QTFDFITAAW LIFLFMVLCG SSLALLVRIL CGSRGLPLTR LYLTILLTVL VFLLCGLPFG IQWFLILWIW KDSDVLFCHI HPVSVVLSSL NSSANPIIYF FVGSFRKQWR LQQPILKLAL QRALQDIAEV DHSEGCFRQG TPEMSRSSLV	teatatacht gacaitetit itegaggeaa agititiagat acachtgigg catitiecet geatatgigt geaaaigeti gigoodgaag atetiigeti itetgecagg tigoagacht gecachagag eigggaitgg teatigigae attgeegete atggagteca gigaagcagg acteagggea atgetgetea eachatggga agaataachg tagateatet tgagaaagge agaettigtg tiaatetett gettacaaa
CAC51133.1	AY042214	AAK91805.1		LG94359
G Protein- Coupled Receptor GPR80	MrgX2 G Protein-Coupled Receptor	MrgX2 G	Protein-Coupled Receptor	G Protein- Coupled Receptor Ls191222
191196	191218	191218		191222
647	848	649		650

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atcaacagoc tocaaggott ottoatotto tiggiotact gootoctoag ocagoaggio cagaaacaal atcaaaagig gittagagag atogtaaaat caaaaatotga gtotgagaca tacacaotti ocagoaagat gggtootgao toaaaaocoa

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NP_115960.1		1 6316747		NM_001407
EGF-Like Module- Containing	Mucin-Like Receptor EMR3	G G	Coupled Receptor d/402H5.1	Cadherin EGF LAG Seven-Pass G-Type Receptor 3 (CELSR3)
193511		103516	916661	193524
653		23		655

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LAG Seven-Pass G-Type Receptor 3 (CELSR3)

Cadherin EGF

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EIQVVAPLDF EAEREYALRI RAQDAGRPPL SINNTGLASIQ VVDINDHIPI FVSTPFQVSV RPEARKVTSA NRARFRRAAN RHPOFPOYNY OTLVPENEAA GTAVLRVVAQ LRVTAQDHGS PRLSATTMVA VTVADRNDHS PVFEQAQYRE TLRENVEEGY ERGNELOLLV VNOTSGELRL SRKLDNNRPL VASMLVTVTD GLHSVTAQCV TARCCGELWA TGSKGQGERA TTSGAERTAP RRNCLPGASG SGPELDSAPR VDREHMESYE LVVEASDQGQ EPGPRSATVR VHITVLDEND NAPQFSEKRY GAITLQAPLD YEDQVTYTLA ITARDNGIPQ KADTTYVEVM VNDVNDNAPQ FVASHYTGLV SEDAPPFTSV LQISATDRDA HANGRVQYTF QNGEDGDGDF VAQVREDVRP HTVVLRVTAT DRDKDANGLV HYNIISGNSR GHFAIDSLTG totgttifgg gaafaaactt otatagaaaa caaaa MMARRPPWRG LGERSTPILL LLLLSLFPLS QEELGGGGHQ GWDPGLAATT LENAPLGHSV IHIQAVDADH GENARLEYSL TGVAPDTPFV INSATGWVSV SGPLDRESVE HYFFGVEARD HGSPPLSASA SVTVTVLDVN DNRPEFTMKE YHLRLNEDAA VGTSVVSVTA VDRDANSAIS YQITGGNTRN RFAISTQGGV GLVTLALPLD YKQERYFKLV LTASDRALHD HCYVHINITD ANTHRPVFQS FIFNIQNDTD VGGTVLNVSF SALAPRGAGA GAAGPWFSSE ELQEQLYVRR AALAARSILID VI.PFDDNVCL REPCENYMKC VSVI.RFDSSA PFLASASTI.F GPRAHIGGGA LALCPESSGV REDGGPGLGV REPIFVGLRG RROSARNSRG NDNAPVFPAE EFEVRVKENS IVGSVVAOIT AVDPDEGPNA HIMYQIVEGN DPDAGEAGRL VYSLAALMNS RSLELFSIDP OSGLIRTAAA LDRESMERHY APIQPIAGLR CRCPPGFTGD FCETELDLCY SNPCRNGGAC ARREGGYTCV PPEQPNEELG IEHGVQPLGS RERETGQGPG SVLYWRPEVS SCGRTGPLQR TEPTSGIVR TVRRLDREAV SVYELTAYAV DRGVPPLRTP VSIQVMVQDV RVVIITEEL LANSLTVRLE NMWQERFLSP LLGRFLEGVA AVLATPAEDV AHYSVSVNED RPMGSTIVVI SASDDDVGEN ARITYLLEDN LPQFRDADS PILOLRATDG DAPPNANLRY RFVGPPAARA AAAAAFEIDP RSGLISTSGR PELFOMDIF SGELTALIDL DYEARQEYVI VVQATSAPLV SRATVHVRLV GSLSPGALSS GVPGSGNSSP LPSDFLIRHH GPKPVSSQRN AGTGSRKRVG TARTAPASGS APRESRTAPE PAPKRMRSRG LFRCRFLPOR PGPRPPGLPA DONDNSPVLN NFQILFNNYV SNRSDTFPSG IIGRIPAYDP DVSDHLFYSF

actiggotgt cagtgacctg ctggtgggca tottotgcat geccaccace cttgtggaca accteateac tgggtggccc

sapiens sapiens Ношо Homo 4 ಕ್ಷಂದಶ್ಚಕ್ಷಯಂ ಶ್ರಕ್ಷಣಯಶ್ವರಂ ಯಂಶಕ್ಷಕ್ಷಕ್ಷಕ್ಷಣ ಸ್ವತ್ತಾಯಕ್ಕಾಣ ಪ್ರತಿಯಾಗುತ್ತದೆ. ಆಗುತ್ತಿಗಳು ggegggtge teaccaegge tigeccaggg aagggectgg etgeteccae etgecectea ceattecage etgggatate tga MEGEPSQPPN SSWPLSQNGT NTEATPATNL TFSSYYQHTS PVAAMFIVAY egecegiegg ggagecacaa ggaggectae teegagegge eeggegget tetgeacagg egggietiteg iggiggtgeg goccagogae teogggetge ectetgagte gggeectage agtggggeec ecaggeegg ecgeeteeg etgeggaatg giggacgooc gcaaccgcic ctacccicic tactccigci gggaggccig gcccgagaag ggcaigcgca gggictacac iggigigaag agataaatca ccagtcacag actatgcacc cgactgctgc tgttcagtcc agggaaaatg aaagttggag gcigiggaa aggitocgci gcatogigca ccotticogo gagaagciga cocigoggaa ggogotogio accatogoog gercagogog cogcagotge acciggicae egictaegee tiececticg egeacigget ggeetictic aacageageg ocaacoccat catctaegge tactteaaeg agaacttoeg eegeggette caggoegeet teegegeeeg cotetgeeeg tratetggge ectggegetg eteateatgt greectegge egteaegetg acegteaece gtgaggagea ceaetteatg cactgigete itelegeaca ictacetgge geogetggeg eteategtgg icatgiaege eegcalegeg egcaagetet agatactgat actitctitc caaacagcat aagaagtgat tgagccacaa giatactgaa ggaagggetc cotcgagtig algolggica iggiggogot gitoticaeg etgicolgge igcogeietg ggegotgeig etgetealeg actaegggea itegacaatg ecacatgeaa gatgagegge itggtgeagg geatgicigt gieggettee gitticaeae tggtggeeat PGGEEAADPR ASRRRARVVH MLVMVALFFT LSWLPLWALL LLIDYGQLSA YSCWEAWPEK GMRRVYTTVL FSHIYLAPLA LIVVMYARIA RKLCQAPGPA LVDNLITGWP FDNATCKMSG LVQGMSVSAS VFILVAIAVE RFRCIVHPFR ALIFILCIAVG NTLVCFIVLK NRHMHTVTNM FILNLAVSDL LVGIFCMPTT EKLTLRKALV TIAVIWALAL LIMCPSAVTL TVTREEHHFM VDARNRSYPI PQLHLVTVYA FPFAHWLAFF NSSANPIIYG YFNENFRRGF QAAFRARLCP RPSGSHKEAY SERPGGLLHR RVFVVVRPSD SGLPSESGPS SGAPRPGRLP LRNGRVAHHG LPREGPGCSH LPLTIPAWDI NP 071429.1 NM 025048 Neuropeptide FF Coupled Receptor G Protein-194319

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NP 079324.1		NM_030774			NP_110401.1		NM_032787
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FCRNGGTWEN GRCICTEEWK GLRCTIANFC ENSTYMGFTF ARIPVGRYGP
SLQTCGKDTP NAGNPMAVRL CSLSLYGEIE LQKVTIGNCN ENLETLEKQV
EDVTAPLNNI SSEVQILTSD ANKLTAENIT SATRVVGQIF NTSRNASPEA
KKVAIVTVSQ LLDASEDAFQ RVAATANDDA LTTLEQMET YSLSLGNQSV
VEPNIAIQSA NFSSENA VGP SNVRFSVQKG ASSSLVSSST FHTINVDGLN
PDAQTELQVL LNMTKNYTKT CGFVVYQNDK LFQSKTFTAK SDFSQKLISS
KTDENEQDQS ASVDMVFSPK YNQKEFQLYS YACVYWNLSA KDWDTYGCQK
DKGTDGFLRC RCNHTTNFAV LMTFKKDYQY PKSLDILSNV GCALSVTGLA
LTVIFQIVTR KVRKTSVTWV LVNLCISMLI FNLLFVFGIE NSNKNLQTSD
GDINNIDFDN NDIPRTDTIN IPNPMCTAIA ALLHYFLLVT FTWNALSAAQ
LYYLLRTMK PLPRHFILFI SLIGWGVPAI VVAITVGVIY SQNGNNPQWE
LDYRQEKICW LAIPEPNGVI KSPLLWSTIN LVNDDSIRIV FSYFCLFNT TQGLQIFLY
TVKTKSVFQSE ASKVLMLLSS DNAKESI
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G Protein-Coupled Receptor SLT/MCH2

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Ното	sapiens	sapiens	Homo sapiens
<u>o.</u>		•	O.
aaccatticg actgacacgt tegagaacaa ggiacaagac catocggatc aatttgggoc tttgggcagc ttoctttatc ctggcattgc ctgictgggt ctactcgaag gicarcaaat ttaaagacgg tgttgagagt tggcttttg atttgacatc occtgacgat gractctgg atacacitta tttgacgata acaactttt ttticoctct acocttgatt ttggtggct atatttaat tttatcat acttgggag atactctgg atacacitta tttgacgata acaacttggt tgacaacacacacagactgagat gcagaccatacaagatgaccaacacagactgagatgaccaacacagactgagatgaccaacacagacag	RSRKKTVPDI YICNLAVADL VHIVGMPFLI HQWARGGEWV FGGPLCTIIT SLDTCNQFAC SAIMTVMSVD RYFALVQPFR LTRWRTRYKT IRINLGLWAA SFILALPVWV YSKVIKFKDG VESCAFDLTS PDDVLWYTLY LTITTFFFPL PLILVCYILI LCYTWEMYQQ NKDARCCNPS VPKQXVMKLT KMVLVLVVVF ILSAAPYHVI QLVNLQMEQP TLAFYVGYYL SICLSYASSS INPFLYILLS GNFQKRLPQI QRRATEKEIN NMGNTLKSHF	ccacacaca aggaccegca toctgggtga tgaagtcaga cacgagcag ctgggtgagt gctaacgctc agalaagcal ctgtgccatt gtgggcatt gtgggactc tottgacceg gacacttgct ofgtoxceg catgacaac ggglcgtgct gcggacatt gtgggacat gtgggacat at access at agaagacce gatgacacat gtggccatt gtgggcgcg actaggcat gggggacac at agaagacac at agaagacce gatgacacat ggaagoccag catgatacac ctttacaat tggccgtggc tagagacac cttargatct ggaagacac tatacacaca gagagacac ggaagacaca gagagacag tagagacag tattacaaag tggtccacoc ctargatct gagagacatt ctgcacagg gggggggc tgggacagg tattacaaag tggtccacoc cacacgoc gtgaacacat tatcacacg ggtgggggc tggaatggt tggggacagg tattacaaag tggtccacoc catgggaca tggatgatt ttgctggaa aaccatct ggtgcaaga gactgatgat tagagacgac tccfggaaa accatct ggtgcaaga gaccatcta tagagacaca gagggaaga aggagacac gggtgaaga accatcta ggtggcaaga gaccatcta gaccactgg gagtcatta ttggagcac aggagagac agcagtggaaga aggagaaga gaccatta tagaccacag gagggaaga cacatcta gggggaaga aggagacac cggagagaa accatcta tagagagaaga aggagaccc gacacataca caagacaga actcatta ctacagacag gaccagaga cacatcata tagagaga catcatca attggtgaa accattat cacacaga accattat cacacaga aggagaca agaacaca caagacaca aattcacaa aattcacaa aattcacaa aattcacaa aattcacaa aattcacaa aattcacaa aattcacaa aattcagaa accattat tagaagaaga cacaaagaca gatcagaaga accattata tagaagaaga accattata tagaagaaga accattata tagaagaaga accattggaaga aatgagacaa aatgaaccaa accaaagaa accaatata tagaagaaga accaattat tagaagaaga accaattat tagaagaca aatgaacacaa aatgaaacaaca ctgaagaaga actaataaa aatgaaacaaca ctaagaacagaa aatgaaacaaca ctgaagaaga actaataaa aatgaaacaca cagaaaagaa aatgaacacaaca ctgaagaaga gatcctgaa aatgaacacaaca ctgaagaaga tagaggaaga actaagaaata aattgaaata aattgaagaa aatgaacacaaca ctgaagaaga gatcctgaa aatgaagacaacaaca ctgaagaaga gatcctgaa aatgagagaaaatta acacaacata aatgaaacacaaca ctgaagaaaga gatcctgaa aatgagagaaaatta acacaacata aatgaaataagaagaagaaagaaagaaagaaagaaa	MÝNGSCCRIE GDTISQVMPP LLIVAFVLGA LGNGVALCGF CFHMKTWKPS TVYLFNLAVA DFLLMICLPF RTDYYLRRRH WAFGDIPCRV GLFTLAMNRA GSIVFLTVVA ADRYFKVVHP HHAVNTISTR VAAGIVCTLW ALVILGTVYL LLENHLCVQE TAVSCESFIM ESANGWHDIM FQLEFFMPLG IILFCSFKIV WSLRRRQQLA RQARMKKATR FIMVVAIVFI TCYLPSVSAR LYFLWTVPSS ACDPSVHGAL HITLSFTYMN SMLDPLVYYF SSPSFPKFYN KLKICSLKPK
NP 115892.1		NM_032554	NP_115943.1
G Protein-	Coupled Receptor SLT/MCH2	Chemokine Receptor FKSG80/GPR81	Chemokine Receptor FKSG80/GPR81
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	Homo sapiens	Homo sapiens
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OPGHSKTORP EEMPISNLGR RSCISVANSF QSQSDGQWDP HIVEWH	gicalgagia pringicacgia gacgiocdiga agaptoggac acguaiagiag cacciagipagig cacciaacag cagcaacoga gictiotiggia ardegorit catgogactic agotocgaga augustoca includiga actogorit catgogactic agotocgaca augustoca includiga actogority categority agotocgaga augustoca includiga agustoca citagagatica acatitigara cotacities of geogragic cacciacaca agustocaga gicaticaca agustocaga gicaticaga acatitigara cotacities of geogragic cacciacacaga gicaticacaga gicaticaga cacciaga gicaticaga cacciaga gicacacati gicacaga gicacacati gicacaga gicacacaga gicacaga gicacacaga gicacagaga cocaciaga gicacagaga cacciagaga gicaticaga gicacacaga gicacacacaga gicacacacaga gicacacaga gicacaga gicacacaga gicacaga gicacaga gicacaga gic	CONTRACTOR OF THE CONTROLL OF THE CAPT CAPT OF THE CAPTURE OF THE
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atgrtageac agaactigig tiggeaglaga gagaggteag getteagagt cageaagaac tiggattica actiggattig aggaectocca cetttigata giggeaglaa gagaectas tichegag tectegatet geoctettia aatgaggaag taaatocca atggeaggg ggtggggg actiggggg tectegatet geoctettia aatgaggaa ateagggte accagaetig ggttictigag catiggggte accagaetigg gattictigag catigggate accaateaacg gaegtgagga gactoctigc tacaagcaga coctaggate accaateaacg gaegtgagga gactoctigc tacaagcaga coctaggate accaateaacg gaegtgagga gactoctigc tacaagcaga coctagaeca teaatgaggatet caeggggetig acgicatetig titoctigg tectecate tacatoctca acctgginge ggcocgact cottoctra geggocaca tatagticg agegocatec acctagaeca teaatgaga acctagaeca tatagticg agegocatec geactgagec tatagticg catactgga coctagaeca titoccaata acctgagga catectgga coctaggaecateca gagaetic ageactgatecata acctgagga coctagaecata acctgaggatecata acctgagaecata acctgagatecata acctgagaecata acctgagaecata acctgagaecata acctgagaecata acctgagaecata accatagaecata accatagaec

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AAK91806.1					LG100657		
MrgX3 G	Protein-Coupled Receptor				194903 G Protein-	Coupled Receptor	GPCRB3
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gttggaaiga gcgaactgtc aggcaggaca ggaagatggt gaaaccaagg gcaaagaggg cctggcgag caagcacgca

cattglagag gaaggccagt atgaagccca gggagttggt ctctgtgcac tcaagcatca ccagatgggg gaagcgctgg

දූacacatitig geotegtigi agticicingg caagleetta cocaggiage tgeaggeaaa ggeactgatg gagaggagge

tattooctag caggcagtgg ggiccacaco accagocaag ttagacagat aagcagcigg googcigagc tgaicatcac

aaacaggcca gcaccgtggt tttggaccca ggcgtggtag aatgtaggta cettggtgga aaacttgaag atgatgatta

ggottigtgg gttoocaaa gaagccatag aggotgocac taotigctgo cagggagooc agcataagaa agcacaggog

goccodigot gacotcacca caggggigto taggigocag g*caaac*aggo cagcagtocc aagcagcago agcagcagca

atatteattt agagaaagag gttgaattea ggataegaet gettttgtag gagttgtgat gaeagetete taacagagga caeaecteag todgodca goclocogag tagotgggat tacaggcacg ogocaccaca occagotaat utttatatt titggtagag atggggttto accatgttgg coaggotggt ctogaactoc ogacotcaag tgatocacoc goctcagoot occaaagtgo tgggataca ittitigggg ggacgaatte tegetitigig gtocaggetg gaatgeatet tggeteaetg caaceteege etectgggtt caagtgatte ictaaggcti icagitggci aatictiict iictiictii iiittigaga cagagtiiii cictigicgc ccaggcigga gigcaatggi gcaaictigg cicactgcaa cciccgccic ccgggticaa gcaaticicc igccicagoc icccgagtag ctggaatiac aggcacacgc cacaacgccc ggctaactti tittgtaitt itaglagaga iggggtitca ccaigttggi caggctggic icgaactcci ctett gocag cattice at g aaccaettte et gaget getet getet get tietet gagt eet gaoocte t gaggacaga agggaagtat ggcaccigia agaagccaga ggggccacac glaggggccc aagicaaagg acagcicaca igiggaacag aaaacagaai gegtgttage tgccagcage acccaagagg tgtgctcacg caaagccaaa aacaccacag tgcgcgggaa gcaggtctgg cttccctcag gtgcccactc ttctttccca caaggctggc atctgtagag gtctgaaagg gaaggccaag aaggttcctg iffected gitetigace ligeatifiet ggalggggaa igetgittit lictetgetg cagacaeget agtatetgia iteaggecaa actggcagcc cagtgactgg gccttggtte tggggcaggg cacatgggge ccaagggagg ccctccctcc accgtgcagc gotgitcaag gagotagotg tottiggcal gggcaacaga agggacagta ggacaagagg gcacaaaggg aacaatagot agagocagat gagcagagta ggaataggaa ataggggoct gcaagatact gggagaattg taccagggca gctagactat cacacteaaa geageagtga tggaaacceg taaccacteg ctggtgecet teaagacagt egetggaaca cacagactta ecceggaagt getgggtage tegectgete cattgeocae teaecactet tgttgaggaa ggteocagee ecacagggea actaggcata gigggatggg ggtagccggg agtggggcct gaggccacgc atticcicaa aatgcctgtg ttaattacag ggragdetg cocacatacc agagaggtta cgatetgatg ggagcagoet getoccaagg gagggcattg taaccoetet gaccicaggi gaiccaccca ccicggcdic ccaaagiigdi gggaitacag gigigageca ccgcgcccgg cciccittd staggical algocateag ggeteactee cagggeaggg eccatggieg igigaactte egoocaggg catdgeaca cotgicoot acagagaigg igaaaggaaa gaaigiggoc ooiggacacc aactaaggac cigagicott agotaociaa ggcatgagoc accgcacoca gregorgatt crottgatca gaattotgro tggtagcagg tgrcotocaa cotgaagota actot ggaga cacacaggto ggitot gtat ggotcatgat cocalgaggg tittgcaaac cotagggagg acottaacot

gggttgcac gctacttatg agaatctaat gtctgatgat ctgtcactgt ctcccatcac ccccagatgg gaccatctag ttgtaggaaa gaaggtoca ctigggtoca itocagtocc aggeaatiat gitatagota ctgagggat ctotgtigic attaaacgec acagtgtoot ocattaccig gitgicctti cogigocaci ggattitggi cicattiaig ttiagcigaa ciggagacca igiggaggaa cogaggaocg icgroootic citicitagga agcoocteaa tottococae caaccicotg agaggaggoc totaacaaac actocittae agacagitti acaagcicag ggcicccact gatictacat tatggigagt tgtataatta tittattata ttaatacatt atggccgggt gcagtggctc caggaggccg aggcaagaga atcacttgaa cocaggaggt ggaagttgca gagagccgag atcgcatcac tacactgcag cagretocae tgaaggeooc occagtgoot ggeectgige tgggtgiggg gatacaggga geoggggggg ocaggagage caggagage caggagage cacocteage etgaaact gacaaateae etgegaagge tocactgggg caggitetgg gggaggggg ggaatetgoo itggicagca ccacggacte gaaaaacace ciggocaaci gceggitgga aaaaacaace aegaeggigg eceeggectg gggctctctt acctgccagg ggtagactcg gcccctggaa caagctccag aggcacagcc caggagctgg tggaggccat occagcacti igggaggacg aggigggcgg atgacaaggi caggagatig agacaicct ggctaacatg gtgaaaccc giciciactc aaaatacaaa aaaaattagc igggcgtggi ggcgggcgcc cgtagiccca cctactiggg aggctgaggc aggggaatgg agtgaacctg ggaggcggag cicacagtga gccaagaicg caccactgca itccagcctg ggcaacaga cgagacicta icicaaaaaa aaaaaaaaga aaagaaaaai iaiccaggca iggtgggggg igccignai cccagctact lgegetggat ecegggeace ceagtgatgt geetggagag ggeceagget tetgaggega eceaeaeett geeagteagg igggacaag gggtgagggg atgcattcca agcaaaggag acaaaacctg cataggagtg aaatagtccc gtgtgtttgg ggacettcag ggacttccae tggaggcagt ttgcaaggaa gaagagaage atgtgtaggt cagggcagaa gttaggtcag ggocaggigg cgcalgaggc actgcatect ctcategecc acetgggcag agaagggcat gatgteetig aaageaatge gagaagag ctaatgcctg taatcccagc actitgggag gccgaagcag gaggatcact tgatgccagg agticgagac acactigtaa teccagcaca tigggaggee gaggigggig gateaegagg ttaggagtit gegaccagce iggetaaeae getgaaaccc cgtcfctact aaaaatacaa aaaaattagc cgggcatggt ggcgcgcgc tgtagtccca gctacacggg catectgaa aceaacecet cacacacect teettagaaa aattgtettt caegaaacea mmmmmm mmmmmm gigiagaag gaaaigcacc tigiggatot gotocaaaag otgaaagaaa ogogiatoat gaagocacca cagacagoac gggccaccgc atacacagcc cggtatgcgt tgtaggcaga actcatggag aaggctttga gcttgggcat cgtgtgtgcc tgocogggca taggettett caaaegeett caggecaggg acageeetet tetggatgge caegeeeage aceateeeaa agacocacat ggtcccagaa gcaagggcct ggggccttcc tgggtttccg tcctggtggt ttcagcccat caggaaggtc agoodiggat ottatoactt gacacttoca agacacagtg ggtgagagaa ggcaaggato agagagaaag atotgtotaa octgggtgac agagocagac tgrotcaaaa aacaaaacaa aacaaaacaa aaaacotcaa gitagtggca titatocoo agaicocotig accagiggee iggiteteea gigeotigeae coctageige ecatagiegi cacigeigee aaccagagag iggootgita ggaaccgggc ctcacaggag gaggtgagca gctggtgagt aagcgaagct tcatctgtat ttacagctgc atocaggicc accegaacti cigcagcage agcaccatgg ictocaccig giactigica tiggggaigg igegeaggaa xegectacg gagtgrette eetgetteee teggecaggat gggtagagtg gtggeagetg gaceetggg geceeetee cagootggoo aacatggtga aaccocatot ctactaaaaa tacaaaaatt aggoogggtg oggtggotca ogootgtaat agagggatac tgccgcttca cgctgagcgt ctcgctgctg gccgcatagc taatctatgg gaggtcccgt tcagccattt lecoeteetg teagateage ageageatea gattettgta ggagettgaa ecetaetgtg aaetgeaeat gegagggate algazagett ggeattetet geagagetga ttgetgetge accaggagee ettgtggeaa ggeetagggg eettettgte itggcatita gagtgaccgg agagtgccca cictgcicat cicaggatig gctgitcicc cigacaggag gigciggggi gotocotgi acactgigic agcaicacoc ccaggotota ggitgoccai aagocagita caiggigagi agccacaioc

sapiens Ношо

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RECOAFMAHT MPKLKAFSMS SAYNAYRAVY AVAHGLHQLL GCASELCSRG GSSDDÝGQLG VQALENQALV RGICIAFKDI MPFSAQVGDE RMQCLMRHLA QAGATVVVVF SSRQLARVFF ESVVLTNLTG KVWVASEAWA LSRHTTGVPG RVYPWOLLEO IHKVHFLLHK DTVAFNDNRD PLSSYNIIAW DWNGPKWTFT IORIGMVLGV AIOKRAVPGL KAFEEAYARA DKEAPRPCHK GSWCSSNQLC RSCSFNEHGY HIFOAMRIGV EEINNSTALL PNITLGYQLY DVCSDSANVY VHISYAASSE TLSVKROYPS FLRTIPNDKY QVETMVLLLQ KFGWTWISLV ATLRVLSLPG QHHIELQGDL LHYSPTVLAV IGPDSTNRAA TTAALLSPFL gagaaggict cettggaget ctatgtggtg ttgeed

caccaccact cicagctaac titigtatit tiagragaga iggggitteg ceatactgge caggctggte tegaactect ggeoteaaga etticaagaaa tictootgoo toagootool gagtagotgg gattacaggt gootgooaco aogootggot aattittgoa titttagoag ictilicti tetgagacag agictigote igtegeccag gaiggagige ggiggegiga tetiggetea etgeaacce igecteetgg giagagggoc iggaagaggg agaggaalga gggcaaccac aggccaggca ggaacccatg gggaaggatc cataagccaa රුපෘලියලියල් ලෙසල්ලයමල් ලක්රේල්ලියයල් පෙලුරුරුල්ලිය කෙලියල්ලින් පුළුරැල්ලිල්ලිය ලලියරුල් දෙල්ලියල්ලිලිය aatcgggctg agggtcaatg agggcaggga gaggccagca ggaaactccc atgggaaggg gcagggagtc agtgctcagg aggggaggag aggagggcga agcctgctcc ggggaatcac ctacctttc agaggaagtg gggcaaaagg agagaagagc octolgagoc aggagggaag aaggaaaggo aggcaggaga gaotgggaig aigtggagca gtotaigggg lgggaagcaa agggtgloct tittiggggg gaggalggag gggacaaggt atcactolgt caoocaggot ggaalgcagt ggtgcaalot caggggtt agatcagagg ggaggggact gagaalggga ggttaaacca cgagccaca gcctgcctgg gaactggaaa ළුඅපුදුදුදුරැළි (පුළැරයaagg tacaggggcaa gaalaagcac agagacagga රැලියැයැයනු යෘළුදුරුඉඩලු යෝජුරයලිය gotggtgtga attocagotg tggctgtggc agtggaaaag gaggocagaa aggatgaaag gtgggggagca gggcaaggag gcaagtgaa agccaggtgg gggcaggggg ctgaggggg cataaattcc aaggaaagac tctcatagga ggactggtca occigacit gigaciaaag agcagigacc accaagaga iccagggggc aggcagccit gggggggaca gcagcicitg occacaigos ceagoceaga etigosigaa gggagatggg caaaggtetg aggetocage taccaiggg caccaggaaa gggctcagca gggcggctgt ggfggcagca cggttggtgc tgfcaggcc aatcactgcc agcaccgtag gggaatagtg gagcagcagt gggcaggact ccagggtgat ggccactccc tcactaccct ccaccagagg attgggggcta atacaggaag atazagaagg actgcaaagt aggatttgga tacctagaag gtgccccagc tcacagcgaa agcaagagtg gtggggacag gaacctotgg agggaggagg gaagtggagg gcagcagggg lacagotgag tggcaglagt toccaaggag aatgggttt gatotgocca gootocccaa gggattacag gcatgagoca cagogoccgt ccaggatgto cattoctaac aaaggoaacg nnnnnnnnn ocaetgetgt aagocacagg gagtooctaa ggatgtoogc agagaagtge tatgttogga ettgeatttt cacatgcctg iggacccagc tacttaggag tatgaggigg gaggattgct tgagcctggg agacagtgag acaacattgc accactgcac iccagcctga gtgtcagagt gagactgtgt ctcaaaaaaa aaaaaaaaa aaaatcacaa gtcacctaag gggattaca ggcgtgagcc cocgegeceg gtgcccggcc gggacttgca tttcatgagc gtatctctga cttcagtgag gaatgagtta gaagaaattt aagactaaaa teagggggaa geettaggae aetgatggga gaatetaget gaggggtgat caggagitca aggocagict aggoaacata gigagacoto tatototaca aaaaatacaa aaattagoca ggoatggigg aaaatgtcac aaagggcacg gtgcctcatg cctgtaatct caccacttig ggaggccaag gcaggtggat tgcttgagcc cagotoactg caacotocae etoccagatt ecagoaatte teetgtetea gootoocaag tagotgggat tacaggoaca aaaagagget titgtigigt agggaaggtaa ggteaatetg ggeettgetg ggtecatgat gtggeaatgt tgggeeagea agacagggtt teaceaegtt ggecaggetg gttteeaaet eetgaeetea tgagetgeee aeettageet eecaaagtge

> Coupled Receptor G Protein-

**GPCRB3** 

788	AX147788 LR114	AX147788 LR114 BC014241
788	AX147788 LR114 BC014241	WO0034334- AX147788 hFB41A WO0034334- LR114 hFB41A G Protein- BC014241 Coupled Receptor MGC7035

679

GCTGGTGCTG GCCGCGGTGG AGACAACCGT GCTGGTGCTC ATCTTTGCAG

	Ното	sapiens					Homo	sapiens	
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ectedegee iteagectee teageattea gittigteaal gaagigalga aagettagag eeagtaitta tactitigtigg itaaaalact igatteeee tigtitigtit tacaaaaaca galgititeet agaaaaalga eaaatagtaa aatgaacaaa aceetaagaa agaatggeaa eageeagggggggggggggg	MWSCSWFNGT XLVEELXACO DLOLGLSLLS LLGLVVGVPV GLCYNALLVL	ANLHSKASMT MPDVYFVNMA VAGLVLSALA PVHLLGPPSS RWALWSVGGE	VHVALLUTIN VSSLVAMI SI ALLISLINI IE KALFRI IMAS VINIKAVCUR VWGGALLTSF SSLLFYICSH VSTRALECAK MQNAEAADAT LVFIGYVVPA	LATLYALVLL SRVRREDTPL DRDTGRLEPS AHRLLVATVC TQFGLWTPHY	LILLGHTVII SRGKPVDAHY LGLLHFVKDF SKLLAFSSSF VTPLLYRYMN	QSFPSKLQRL MKKLPCGDRH CSPDHMGVQQ VLA	TCCGGACTAG TTCTAGACCG CTGCGGGCCG CCAGGCGCCG GGAATGTCCC	CTGAATGCGC GCGGGCAGCG GGCGACGCGC CCTTGCGCAG CCTGGAGCAA	GCCAACCGCA CCCGCTTTCC CTTCTTCTC GACGTCAAGG GCGACCACCG
	G Protein- LR112	Coupled Receptor	MCC/033				G Protein- LD22826	Coupled Receptor	14273
	194905						194907		
							_		

680

581

ATCAAGGAAG AGGCTCACCG TAAGCCTGGC CTACTCGGAG ACCCACCAGA CTGAGCGGCA GCGTCACCAT CCTCACGCTG GCCGCGGTCA GCCTGGAGGG CATGGTGRGC ATCGRGCACC TGGAGCGCGG CGTGCGGGGT CCTCCGCGGC GTCGCTGCT GGGCAACGTG TGCGCCCTGG TGCTGGTGGC GCGCCGACGA GCTCTGCCTC TGTGCGTCTT CTTTCGAGTC GTCCCGCAAC GGCTCCCGG CGCCGACCAG GAAATTTCGA TTTGCACACT GATTTGGCCC AGCATTCCTC GGACTGGTCA TTGTGATCAG TTACTCCAAA ATTTTACAGA TCACAAAGGC CTCTACAACA TGACACTGTG CAGGAATGAG TGGAAGAAAA TTTTTTGCTG CITCIGGITIC CCAGAAAAGG GAGCCATITIT AACAGACACA TCIGICAAAA CCCTCCATCA GTGCACCCTG CTTTAAGAAA ATGAACCTAT GCAAATAGAC ATCCACAGGG TCGGTAAATT AAGGGGTGAT CACCAAGTTT CATAATATT CGCCGCGGGCG CGACTGCCTG CCTGGTACTC AACCTCTTCT GCGCGGACCT GCTCTTCATC AGCGCTATCC CTCTGGTGCT GGCCGTGCGC TGGACTGAGG GGGCGCGGGC AGTGCTGCTG GCSCTCATCT GGGCCTATTC GGCGGTCGCC <u> ICACACCTGG CGAGCTGTGG CATGCTTTTA AACAGAGTTC ATTTCCAGTA</u> ICCCTITIATA AAAGGATITIG TIGGCCAGGT GCAGTGGITC AIGCCIGTAA CATCCTGATC CAGAACTTCA AGCAAGACCT GGTCATCTGG CCGTCCCTCT CCTCCCTGCT GGGCCCCGTT GCCTGCCACC TGCTCTTCTA CGTGATGACC TCCGCGTGTC CCAGCAGGAC TTCCGGCTCT TCCGCACCCT CTTCCTCCTC ATGGTCTCCT TCTTCATCAT GTGGAGCCCC ATCATCATCA CCATCCTCCT GAGAGATCTC GTGGGATGTC TCTTTTGTTA CTTTGAACTT CTTGGTGCCA GAAATGACIT GICGAITAIT ICIGGCIAAI IIICIIIIAIA GCCGAGIITIC ICTTCTGGGT GGTCCCCTTC ACATTTGCTA ATTCAGCCCT AAACCCCATC

	Homo sapiens	Homo	Homo sapiens
	<u>α</u>	۵.	∢
TCCCAGCAGT TTGGGCTGAG GTGGGTGGAT CACCTGAGGT CAGGAGTTCG AGACCAACCT GACCAACATG GTGAGACCCC CGTCTCTACT AAAAATAAA AAAAAATTA GCTGGGAGTG GTGGTGGGCA CCTGTAATCC TAGCTACTTG GGAGGCTCAA CCACGAGAAT CTCTTGAACC TGGGAGGCAG AGGTTGCAGT GAGCCGAGAT CGTGCCATTG CACTCCAACC AGGGCAACA GAGTTGCAAC CCATCTTAAA AAAAAAAA AAAGATTTGT TATGGGTTCC TTTTAAATGT GAACTTTTTT AGTGTGTTTG TATGGATCAAAAAAAAAA	MSPECARAAG DAPLRSLEQA NRTRFPFFSD VKGDHRLVLA AVETTVLVLI FAVSLLGNVC ALVLVARRRR RGATACLVLN LFCADLLFIS APLVLAVRW TEAWLLGPVA CHLLFYVMTL SGSVTILTLA AVSLDRMVCI VMLQRGVRCP GRRARAVLLA LIWGYSAVA LPLCVFFRVV PQRLPGADQE ISICTLIWPT IPGEISWDVS FVTLNFLVPG LVIVISYSKI LQTTKASRKR LTVSLAYSRS HQIRVSQQDF RLFRTLFLLM VSFFIMWSPI IDTILLILIQ NFKQDLVIWP SIPPWVVAPT FANSALNPIL	THAILLICANEN MARCOLI WIT ENCALDIDIS VANDELSIIS  ITYSAISDEL RDKVRFPALL RTTPSADHHY EAMVOLMLHF RWNWIIVLVS  SDTYGRDNGQ LLGERVARRD ICIAFQETLP TLQPNQNMTS EERQRLVTIV  DKLQQSTARV VVVFSPDLTL YHFNEVLRQ NFTGAVWIAS ESWADDPVLH  NLTELGHLGT FLGITIQSVP IPGFSEREW GPQAGPPPLS RTSQSYTCNQ  ECDNCLNATL SFNTILRLSG ERVVSVYSVSA VYAVAHALHS LLGCDKSTCT  KRVVYPWQLL EEIWKVNFTL LDHQIFFDPQ GDVALHLEIV QWQWDRSQNP  FQSVASYYPL QRQLKNIKTS LHTVNNTIPM SMCSKRCQSG QKKKPVGIHV  CCFECIDCLP GTFLNHTECP NNEWSYQSET SCFKRQLVFL EWHEAPTIAV  ALLAALGFLS TLAILVIFWR HFQTPIVRSA GGPMGCFLMLT LLLVAYMVVP  VYVGPPKVST CLCRQALFPL CFTICISCIA VRSFQIVCAF KMASRFPRAY  SYWVRYQGPY VSMAFITVLK MYIVVIGMLA RPQSHPRTDP DDPKITIVSC  NPNYRNSLLF NTSLDLLLSV VGFSFAYMGK ELPTNYNEAK FITLSMTFYF  TSSVSLCTFM SAYSGVLVTI VDLLVTVLNL LAISLGYFGP KCYMILFYPE  RNTPAYFNSM IQGYTMRRD	atgagcagca attcatocct gotggtggot gtgcagctgt gctacgcgaa cgtgaatggg toctgtgtga aaatococtt ctcgocggga toccgggtga ttctgtacat agtgtttggc tttggggctg tgctggctgt gtttggaaac ctcctggtga tgattcaat
	G Protein- LR116 Coupled Receptor 14273	G Protein-coupled LR117 Receptor Gpcrb4	Trace Amine AF380192 Receptor 4 (TA4)
	194907	194908	194957
	<b>a</b> )	_	

682

Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
<u>α</u>	∢	Δ.	<
ttattgtaac tiggtcaggtt ttaaagaaca gitcagcaac catgaatttig ttttctgaac atatataa MSSNSSLLVA VQLCYANVNG SCVKIPFSPG SRVILYIVFG FGAVLAVFGN LLVMISILHF KQLHSPTNFL VASLACADFL VGVTVMPFSM VRTVESCWYF GRSFCTFHTC CDVAFCYSSL FHLCFISIDR YIAVTDPLVY PTKFTVSVSG ICISVSWILP LMYSGAVFYT GVYDDGLEEL SDALNCIGGC QTVVNQNWVL TDFLSFFIPT FIMILYGNI FLVARRQAKK IENTGSKTS SSESYKARVA RRERKAAAKTL GVTVVAFMIS WLPYSIDSLI DAFMGFTTPA CIYEICCWCA YYNSAMNPLI YALFYPWFRK AIKVIVTGOV LKNSSATMAL FSEHI	atgaccagca attiticca accigitge cagcitigci atgaggatg gaatggatci tgiattgaaa ciocciatic toctgggtcc cgggaaatci tgaacagca attiticcaa accigitge cagcitigci tagacgatgi tggaaatcic tagaaatga cttctgict tcatttiaag cagcigaact tggacagci gattagciti gggaaattige gggggaattigci gaccaaatti gcciclcigg cittggciga cittggatgi gatgitgact tgatgctic cagcaaggic cagtggciga gatgitgact gatgitgact tagacacaa tittcaat gcciclcigg cittggciga cittggata cittgacaa cacaatti gaccictca cagtgcigi gatgitgact tagatactic tictgiccic cactiggci tcatcagci tcatcagca tagacagca attgitgata citalicca aggacagci tagatagta aggitgaca cagtgata citaliccaa atgacagca gatcatgci tacacaggi gacaatgata gatgitgata gattcatcaa accaacaacaagci tataaaaaatt gaaacaacaa gatgatacaa agaatcacci tagatagaa itcittacaa ataagcaaa agaacaacaagci tataaaaaatt gaaacaacaa gatgacaaaga agaatcacci tcagaagat alaaaaacaa agaagacaaa aagacaacaa aaccitgggg gacacggac tagacattig tattcatcaa agaatcatca tagaaaatta tataacaaga catgaaat ataaataga gccitatti alccitggaa aagacatta tataacaacaagci tataaaaaatc tagaaaactta tataacaacaa catgaaacc titgattaa gccitatti alccitggaa agaaaactta tataacaacaa cataaacatti aacaacaacaacaacaacaacaaacaaacaaacaaaaacaaaa	MTSNFSQPVV QLCYEDVNGS CIETPYSPGS RVILYTAFSF GSLLAVFGNL LVMTSVLHFK QLHSPTNFLI ASLECADFLV GVTVMLFSMV RTVESCWYFG AKFCTLHSCC DVAFCYSSVL HLCFICIDRY IVVTDPLVYA TKFTVSVSGI CISVSWILPL TYSGAVFYTG VNDDGLEELV SALINCVGGCQ IIVSQGWVLI DFLLFFIPTL VMILLYSKIF LIAKQQAIKI ETTSSKVESS SESYKIRVAK RERKAAKTLG VTVLAFVISW LPYTVDILID AFMGFLTPAY IYEICCWSAY YNSAMNPLIY ALFYPWFRKA IKLILSGDVL KASSCTISI F I F	fecalgate tecticotg ccalgatga ccagicotag teacgatgi greacaacca ectetitgig iaicigaati ectecaecig aaagaaaati teagacccag galagataa tealegggic caaagoodig googgatgag tggggggitt iigaicctaa aaagaaati teagaccca agaactigig tggcagtaga gagatgicag getteagagi caacaagaac tggatticaa actggattig aggacccca ectitggaa gigactati actgogage eteigittet eteitetta aatgaggaca gaaatecca
AAK71243.1.	AF380193	AAK71244.1	AY042216
Trace Amine Receptor 4 (TA4)	Trace Amine Receptor 5 (TAS)	Trace Amine Receptor 5 (TA5)	MrgX4 G Protein-Coupled Receptor
194957	194958	194958	194989
989	989	289	889

ttacaggoc tgagtatgot gagogocato agcaccgago gotgoctgto tgitotgtgg occatotggt accgotgoog cogococaca caccigicag eggeggigg tgicolgoto tggggcotgi occigotgti tagtatgotg gagtggaggi totgtgacti octgittagt ggtgotgati ciagttggg tgaaacgtca gatticatoc cagtogogig gotgatttii tiatgtgtgg tiototggi ticogtgi ticoggot ticoagocig gotgatttii tatgtgtgg ticotggi ticoggot ticoagocig gotgatttii tatgtgtgg ticotggi

ggetoctggg ctaocgcatg cgcaggaacg ctgtctocat ctacatocte aactggccg cagcagactt cotottocte agottocaga tiatacgtte gocattacge ctcatcaata tcagccatct catcogcaaa atoctogttt ctgtgatgae ctitoccae

tacggcaggg tggtggggag aatcagagat gatacagctg gtgatcacat ctggtttgtg ttoccagggg caccagacta gagtttctga gcattgatcc aaccgtocca grottcggta caaaactgac accaatcaac ggacgtgagg agactcttg ctacaatcag acctgagct tcacggtgct gacgtgcatc atttoccttg tcggactgac aggaaacgcg gagtgctct

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<u>a</u>	∢	Δ.
tracagiget ggicticct ctctgeggc tgccttegg catctgggg gcctaattt acaggatgca cctgaatttg gaagtctaal attgcatgt tatctggt tgcatgcc tgcctct aaacagtagt gccaaccca tcattact cttcgtggg tcctttaggc agegaagc ctgtcctcd aaacagtagt gccaaccca tcattactt cttcgtggg tcctttaggc agegaagc eggcatga agggaaggc gegaagcg ggcatggagg gccagcag agggaagcg gggaaggc gggaattgag ggacttgag aggaaggc gggaaggc gggaaggc aggaaggc aggaagga	ESLELNOSKUL GP atgaacaaca atacaacaig tatticaacca totatgatot ottocatggo titaccaato attiaccaico toctitigtat tigtiggtigit atgaacaaca atacaacaig tatticaacca totatgatot ottocatggo titaccaato attiaccaico tigtigatigi tigtiggtigit titiggaaaca cotototoca atggatatit taaccaaaaa taggaaaaa aacatcaacg cacatotaaco tigtigatigigitigi ocataagocg catactga aacttacttig tigticagtigic catigcattic atgagtatot atticotgaa aggitticcaa tigtiggatigi ocataagocg catagagag gicaatittic tigggaactot atocatigica acticatigici atgagaaaaa attitatiggic cattactga aaaaaatticg ocagoccaac titigctagaa aactatigati tacaataga ggagtigtalo tigggoataat cattocagti accigatact actocagtica agaggotaca gaaggagaag agagoccatig ctacaatoga cagatiggaac taggagocat gatotocag attigcaggic toattiggaac cacatitati ggaitticot tittagaga actaacatoa tactactott tigtaagoca totgagaaaa ataagaacot gaogiccaat tatggagaaa gattigacti acagutott gaaaagacat otttiggica tocagattot actaatagat tigotticottic ottatagata tatggagaaa gattigacti acagutott gaaaagacaa tittagaloca tocagattot actaatagat tocactigot	rgeneggee agaagagea cagaoccan tanamen tanagaca agacancaa gaagacacha baranche nacaaagae tanteagaa canagagaa agaatagaa canagagaa agaatagaa canagagaa agaatagaa canagagaa agaatagaa tanteagaa canagagaa anteagaa gaatagaa tanteegaa gaatagaa baranteegaa baranteegaa baranteegaa baranteegaa baranteegaa tanteegaa taseegaa taseegaa taseegaa taseegaa taseegaa baranteegaa baranteegaa taseegaa taseegaa taseegaa baranteegaa taseegaa taseegaa taseegaa taseegaa baranteegaa taseegaa ta
AAK91807.1	AF411111	AAL26482
MrgX4 G Protein-Coupled Receptor	G Protein- Coupled Receptor GPR82	G Protein- Coupled Receptor GPR82
194989	195015	195015
689	069	169

76/448		
le Species Name Homo sapiens	Homo sapiens	Homo sapiens
aacaccacat caccacgge tecetttgag A gtgaccgtca getaccaagt gatcacctct getaccagt gatcacctct getacctgag a tgcgtgacg gatcacctct tattgget tattggct tttggcggc caccatggcg cactcatggc catcatggc catcacggac gggctggaca ggtactggc catcacggac gatcatggc gatcatctc aggacaccc ggaagaccgc gatcatggct acactatcta ttccaccttt ctggttctct atgggcgcat attccgagct aaggtggaga agaccggag ggacacccgc ggtgatctct atgggccat attccgagct ggtgatctct atgggccat attccgagct ggtgatctct atgggccat attccgagct ggtgatctct atgggccat attccgagct ggtgatcccgc aagagtggaga agaccggagc ggacacccgc ggtgatccacc tgtgcgccaa tggcgcggtgggggggggg	ttaagtgtaa LLLGTLIFCA KWTLGQVTCD LIGFLISIPP ARFRIRKTVK RQGDDGAALE KTVKTLGIIM	cogcogccog aggotacoga gacatgggtt A caaaactgca gagacaagga ctacatttac etgatattggc gatcatcacc attgacacag tgtacoggac coggaaactg attgacacag tgtacoggac acgacactg tgtgacagtg acttgttgca atgacacat aggocaggtg acttgttgca ctgcaccat atcacgaca cogtogacaca atcacgaca acttgttgca atgactccat atcacgaca aggotattatc catctatc
atgatgtgc tcagccctgg tcaggggaac acactactgg tatctccgac gt accgggggga acactactgg tatctccgac gt atcgggcgg accggctgg tatctccgac gt atcgccttgg accgctcct ctctggggg accgctcct dtcaggacggg accgacctca tgggccaggt acctatcgac tcttgcacct gtgggcaggt acctatcgact acgtgaacaa gaggacgtc ccatcgact acgtgaacaa gaggacgcc cgttattggct tcctcatctc tatcccgcc attaggacccc actcgaacccg acgcatgaac acttagcaag gaggagcttct acatcccgca gctgctcatg tcctcatcgc acttagcaag gagagcttcc gcatccgcaa gacgggcgttcc actcgaagacgt actccgccaa gaactggagcat ctcccgccc acttagcaag acatggagcat ctcccgccc gagcccaag aactggagcat ctcccgccc gcagcccaag aaactggagga acgatggcg agaagagaaa atgagcgcaa agccaaggct ggaagagaaa atgagcgcaa agccaaggct ggaagagaaa atgagcgcaa accttaftcc gcccttgtcc actcttctgc gaaagacagtgaaaaaatgagcgaaaaaaaaaa	tacttcaaca aggactttca aaacgcgtttcattcaaca aggactttca aaacgcgtttcattcatca and tacttcattcattcattcattcatcattcatcattcatca	atggaggaac cgggtgetea gtgegeteca ce cetecaageca acttatecte tgetecetec escaggacteca tetecetace tgetecetec ecaggacteca tetecetace gtgetettgtg et ttggecacca cgetetecat gategeage etaacaccat gategatge ceateageac catgtacact gtgtetgtgact tetggetgte gteggacate actgtgteateg ecetggacca etaggacate agaggacteca agaggegge ggteatggte gtaggacate agaggacteca agaggegge ggteatgate ge
Source ID NM_000524	NP_000515,1	NM_000863
Gene 5-HT1A Receptor	5-HT1A Receptor	5-HT1B Receptor
ID LSID 127	127	128
NO:	N	м

	Homo sapiens	sapiens	Homo sapiens
aaggccgaag aggaggtgtc ggaatgcgtg tactccacgg tgggtgcttt ctacttcccc atctccacgg tgggtgcttt ctacttcccc atctacgtag aagcccgctc ccggattttg ttgacccgag cccagctgat aaccgactcc aaactgcgag ttcccgacgt gccagcggaa aaagccacca agaccctagg gatcattttg ttcatcatct ccctagtgat gcctatctgc tttgacttct tcacatggct gggctatctc tttgacttct tcacatggct gggctatctcc atgtcccatg aggactttaa acaagcattc	GOCSAKDYIY QDSISLPWKV LLVMLLALIT P QAVTDLLVSI LVMPISTMYT VTGRWTLGQV ITDAVEYSAK RTPKRAAVMI ALVWVFSISI YSTVGAFYFP TLLLIALYGR IYVEARSRIL NNSRVPDVPSE SGSPVYVNQV KVRVSDALLE FIISLVMPIC KDACWFHLAI FDFFTWLGYL	agagccact agcatgtccc cactgaacca A caacagatc ctgaatgcca cagaaacctc tgctcaagatc tccttgccg tggtcctttc tgcctttgta ctcaccacca tcttactcac gattggctc ctggccacca ccggacctct ctctgacatc atcaccaca cctggaactt ctctgacatc atcacagatg ccttggaata caccatgatc gcattgtct gggccatctc gggcaggca atcacagatg ccttggaata caccatgatc gccattgtct gggccatctc gggcaggcc aaggccagg aggagatgtc ctacaccatc tactccacqg gggagatgtc atatggccgg atctaccagg ctgccggaa gaaggcttc accatgagg ggcactcgcacct accacggcc acctcatcac ctacaccac cacacggccc acctcatcac cacttgtat accacggcc acctcatcac ctacaccat cattagaagatg ggcactcgaaagcatctcattgaa atagaagatgttctctggaaaatc attatcactggaaagcc acttcttcactggaaagcc acttcaccat ggcactcccat ggcactcttgac ttcttcacct ggcactcccat gcactttgac ttcttcacct ggcaaggcta	LAVVLSVITL THTWNFGQIL IVWAISICIS
cottettetg gegteagget teategeect ctategeege coaacaggae eggeagege egtecteggt cacctetatt etgtgtatgt gaaccaagte teatggeege tagggagege ttgtgtgttg getacctte getggteteca ectageacte teaaccccat aatetatace	PPPAGSETWY POANLSSAPS IATVYRTRKI HTPANYLIAS TCCTASILHL CVIALDRYWA KAEEEVSECV VNTDHILYTV LTRAQLITDS PGSTSSVTSI KATKTLGIIL GAEIVCWLPF MSNEDFROAF HKITBERCTS	giggagatet giggagaaag ggectteece giggagaaag etggecaeag tecteteeaa cacaecectg ceaactaect ttggtaatge cetteageat ttgtgtgaca tetggetgte tgtgtcattg ceateageat aggacggetg gecaegegge tccatecece egetettetg gtgaacaect etcagatete accaecet eactetetgg gggteetege tetecates tecetetet tttteaacea aggattetg eactetatgg gggteetege tetgeteget tecetetet tttteaacea aggattettg etgetegaga tttateatet getggetgee tecetetet tttteaacea	TECGGCCCC CCGGGGGGGCCCCCCCCCCCCCCCCCCCCC
tegetgeege getgaacaceg accetgetee aaacagaege ceegggteec teeggatete aagaagaaa ggageetta aaagaegee	NP_000854.1 MEEPGAQCAP LATTLSNAFV VCDFWLSSDI SLPPFEWRQA KQTPNRTGKR KKKLMAARER NSLINPITYT	NM_000864 agccaatgt agaggcttgg agaggcttgg agaggctc aggaagctc aggaagctc aggaagctc aggaagctc aggaagctc aggaagctc aggaagctc aggaagctc cattgcatc agtaaacgc cattgcatc aggactgctg aggactgctgc ctacattcc ccgcatcctg aggactgctgc ctacattcc ccgcatctc ccgcatctc ccgcatctc ccgcatctc aggactgcatct ctacattcc ccgcatctc ccgcatctc ctacattcc ccgcatctc ctacattcc ccgcatctc ctacattcc ccgcatctc ctacattcc ccgcatctc ctcgccgcc ctcgccgcc ctcgcqccqqcc ctcgcqccqqccc ctcgcqccqccc ctcgcqcqqqcc	NP_000855.1 MSPLNQSAEG TTILLTRKLH CCTASILHLC
	128 5-HT1B Receptor	Receptor Receptor	129 5-HTID Receptor
	_		10

	Homo	Homo sapiens
LYGRI YRAARNRILN PPSLYGKRFT HVKIK LADSALERKR ISAARERKAT ALFDF FTWLGYLNSL INPIIYTVFN	ccagctcagg agaaaaagga gcgggttccg A tggagttgccc agtgcgggcc ggctgcacgc tccgcctcag cagcacagtc tcacctcatt tccgcctcag cttcctagta gctgggattg tttgaatttt tagtggagac gggattccac acagaagaa atgctgagac gggattccc tcagaagaa atgctgtggc cttctccttt atagctgaac aaattatagc ctccttacaa agaccaaagga aaataaccaa gaggccagca agatgctcat ttgcatgac ctggtgggtca acatcacaaa ctgtaccaca gaggccagca ttgcatcat ggctattggc accaccaaga agatgctcat ttgcatgac ctcttggtgg acatgacctg cgtgacggac ctcctggtgg acatgacctg cgtgacggac ctcctggtgg acatgacctg cgtgacggac ttgcaccacaca gagccactcc gggccatcac ggatcgctgg aagcttgggt acatgacctg ctgaacgcgac tcatcctggc cgtgacggac tcatcctagc tcatcctac catgacgcc tcatcccagat taccacaca tagccacacac tagaccttc catcacacac tcatcctac ccatcagacc tcatcccagac tcaccacacac tcatccagac tcaccacacac tcatccagac tcaccacacac tcatccagac tcaccacacac tcaccacacac tcatccagac tcaccacacac tcaccacac tcaccacacac tcaccacac tcaccacacac tcaccacacac tcaccacac	VITTLTTLLN LAVIMALGTT KKLHQPANYL P GYELCEVWLS VDMTCCTCSI LHLCVIALDR IFISMPPLFW RSHRRLSPPP SQCTIQHDHV SLYQKRGSSR HLSNRSTDSQ NSFASCKLTQ
NTSQISYTIY STCGAFYIPS VLLILLYGRI SSLCSLNSSL HEGHSHSAGS PLFFNHVKIK IICWLPFFVV SLVLPICRDS CWIHPALFDF	gca gtgctctgat cag ctggacqtgc cag tcgcccaggc ggc tcgcgggttc ggc cggctaatt tct tgaaccactca aag agaaacatta aag ggaaacatta ttg ctgaacttgg aac atcattgaga ttg ctgaacttgg aac atcattgaga ctg agcactatct ttg ctgaacttgg ctg gacactatct tgg ctgagtgtgg ctt gacactatct tag ctgattatct tag ctgagtgtgg ctt gacatcatct tag ctgagtgtgg ctt gacatcatct tag ctgagtgtgg ctt gacatcatct tca agcaggtact ctt acacagact ctt acacagact ctt acacagact ctt acacagact ctt tcatagatgc ctt ttacacagatt ctt atcaaccct ctt acaccagatt ctt atcaaccct ctt atcaacct ctt atcaaccct ctt atcaacct ctt a	SMAIRPKTIT EKMLICMTLV VITTLTTLLN VAVLVMPLSI IYIVMDRWKL GYFLCEVWLS ARKRTAKRAA LMILTVWTIS IFISMPPLFW FYIPLTLILI LYYRIYHAAK SLYQKRGSSR
AQEEMSDCLV NTS TAHLITGSAG SSI KILGILLGAF IIC	berryckfung accgaatgtt accgaacctt accgtccaca catgttggcc catgttggcc catgttggcc catgttggcc catgttgccc acaacacct accaacacct accacaccct acctccccc acctcctcg acctccccc acctccccc actcccccc actcccccc actcccccc traccacacct actcccccc catttgcacac cttttgcaag tcatccacac tcatcccct atttcccct tcatccccc tcatccccc tcatccccc tcatccccc tcatccccc tcatccccc tcatccccc tcatccccc tcatccccc tcatcccccc tcatccccc tcatccccc tcatccccc tcatccccc tcatccccc tcatccccc tcatccccc tcatcccccc tcatcccacac tagtcaccac tcatccccc tcatcccccc tcatcccccc tcatcccccc tcatcccccc tcatcccccc tcatccccccc tcatccccccc tcatcccccccc tcatccccccc tcatcccccc tcatcccccc tcatcccccc tcatcccccc tcatccccccc tcatccccccc tcatcccccccc tcatccccccc tcatcccccccc tcatctccccccccc tcatcccccccc tcatctcccccc tcatctcccccc tcatctcccccccccc	1 MNITNCTTEA ICSLAVTDLL YWAITNAIEY IYTIYSTLGA
	ų o	S-HTIE NP_000856. Receptor
	130 	130 5- Re

	Homo sapiens	Homo sapiens	Homo sapiens
ISSTRERKAA PLLYTSFNED	aggaactgtt aaacagaatg A cactgatgac aacaactatc toctggtgat gccettcagc tgctctggat aaaggactg tctcagctat aggtttggctg tctcagctat aggactcc aaaggactcc aaagcatgct tctctatgc tctctatgt tggcattgat tttgatcctt aggaaaag cactaaatca catcaacaga cttggagaagg catcaggatt aggagaaag ctttgataaa atgagaaaat ttggagaaagg tccttggagaagg ccctgggatt aatctggggt tagttgttaa tctcaaatcc tgagaaaag cttcaaatcc tagttgggaa	NSLVIAAIIV TRKLHHPANY P. SVDITCCTCS ILHISAIALD F WRHQGTSRDD ECIIKHDHIV AKEEVNGQVL LESGEKSTKS QKISGTRERK AATTLGLILG	cagcctcagt gttacagagt A tgttagcactc ctacacctc gaagaaata cttctttgag acagtcgact ctgaaagactt acagtcgact ctgaaaatcg ctctccttac ttcatctcca attctaacta ttgctggaaa cagaatgcca ccaactattt ctgtcatgc ccgtgtccat ctgtcatgc acagttgtg cagtctggat ctctgcgcca tctcgctggat ctctgcgcca tctcactcagatccatcactca acctgcgcca tctcgctggat ttcaactcca gaactaaggc
	ttgacctcag tctggggctgg acccggaagc cttgtgggctg atggggcaag atcttgcatc g tatgccagga tctgttttta t gaatgcatca c tacatccac t tataccaca t tttaccaca t ttttgagagatg t ttatctgacc a gcagccacta t gtaaaagaatt t gttaaaagaatt t tttttggcat	L SGLALMTTI I MGQVVCDIWL I SVEISMPPLF I LYHKRQASRI S EFKHEKSWRR	a gcatgtacac a tattctttgt a tgatgacac c atttaactgg c accgtcgtgt c cgtagtgatt c cgtagtgatt d gaaaagctg t gctgggtttc c ttgccgagc c catcatgcac
H ASIRIPPFDN I VSSEVADFLT	c cgatcaaaac c cctcactctg t cacagatttt a gagctggatt g cacgtggatt g cacgtggatt g cacgtgctcc a tgctgttgag t ttggattata g cagagatgat t tggagctttc c agcaaagaca g ccaagtcctt t agaaaagtct t agaaaagtct g tctcaggtct g tctcaggtct a ccaagtcctt a aatgtccaat	PSKILVSLTL S PYXIVRESWI A GIMITIVWII L YKIYRAAKT K IHSTVRSLRS D KCKISEEMSN	c cgggagaaca t tagacatgaa a tgcaattaaa a cttctgatgc g ggtgcctctc t tactgacagc g tgtccctaga g tgtccctaga g ctgatatgct t accggtggcc t caacggcctc
S DPTTEFEKFH K ELIVGLSIYT	t taaattcatc t ttctggtgtc t cccttgcagt a ttgtgagaga a ttacctgctg g caatcacaga a ttacaatagt c aaggaactag t actcaacatt a tatatagagc g aggtgaatgg t cctatgtact a caggtgaaga t caggtgaaga t caggtgaaga t caggtgaaga t caggtgaaga t caggtgaaga t caggtgaaga t caggtgaaga		t gagccagete t caaggtgaat a agttetgget g aactcctaa a gaagctaaca t tectgtgaag e tggtetgett c atcatggcag a ettgecatag c etgtetetet c etgetetetet c gtgetetetet c gtgetetetet
TECVSDESTS ILSWLPFFIK CREHT	atggatttct ccatccaaaa aactccttg ttaatttgtt attgtgtata agtgttgaca cggtatcgag ggcattatga tggaggcacc tccaccatt tactacaaaa gcaaaggagg gtttccacat attcatagca caaaagatct gcatttgtaa caaaagtaaaaa acttataaaac	1 MDFLNSSDQN LICSLAVIDF RYRAITDAVE STIYSTEGAF VSTSYVLEKS AFVICWLPFF	gaatteggt gtgggtacat atctgctaca ctcaactacg taactctgga aaccaacctt ggaaaaaaa catactcgtc cctgatgtca gttaaccatc ttacctggac
,	NM_000866	NP_000857.	NM_000621
	5-HT1F Receptor	5-HT1F Receptor	5-HT2A Receptor
	131	131	132
	თ	10	11

atttctgaaa atcattgctg tttggaccat atcagtaggt atatccatgc caataccagt

				6 6			6, 11, 11, 11, 11		
			ctttgggcta	caggacgatt	cgaaggtctt	taaggagggg	agttgcttac	tcgccgatga	
			taactttgtc	ctgatcggct	cttttgtgtc	atttttcatt	cccttaacca	tcatggtgat	
			cacctacttt	ctaactatca	agtcactcca	gaaagaagct	actttgtgtg	taagtgatct	
			tggcacacgg	gccaaattag	cttcttcag	cttcctccct	cagagttett	tgtcttcaga	
			aaagctcttc	cagcggtcga	tccataggga	gccagggtcc	tacacaggca	ggaggactat	
			gcagtccatc	agcaatgagc	aaaaggcatg	caaggtgctg	ggcatcgtct	tetteetgtt	
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			ctgcaatgag	gatgtcattg	gggccctgct	caatgtgttt	gtttggatcg	gttatctctc	
			ttcagcagtc	aacccactag	tctacacact	gttcaacaag	acctataggt	cagcettte	
			acggtatatt	cagtgtcagt	acaaggaaaa	caaaaaacca	ttgcagttaa	ttttagtgaa	
			cacaataccg	gctttggcct	acaagtctag	ccaacttcaa	atgggacaaa	aaaagaattc	
			aaagcaagat	gccaagacaa	cagataatga	ctgctcaatg	gttgctctag	gaaagcagca	
			ttctgaagag	gcttctaaag	acaatagcga	cggagtgaat	gaaaaggtga	gctgtgtgtg	
			ataggctagt	tgccgtggca	actgtggaag	gcacactgag	caagttttca	cctatctgga	
			aaaaaaaat	atgagattgg	aaaaaattag	acaagtctag	tggaaccaac	gatcatatct	
			gtatgcctca	ttttattctg	tcaatgaaaa	geggggttea	atgctacaaa	atgtgtgctt	
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			aatgatatgt	ctttaaaatg	attcacttt	attgtataat	tatgaagccc	taagtaaatc	
			taaattaact	tctattttca	agtggaaacc	ttgctgctat	gctgttcatt	gatgacatgg	
			gattgagttg	gttacctatt	gccgtaaata	aaaatagcta	taaatagtga	aaattttatt	
			gaatatatg	gcctcttaaa	aattatcttt	aaaacttact	atggtatata	ttttgaaagg	
			agaaaaaaa	aaagccacta	aggtcagtgt	tataaaatct	gtattgctaa	gataattaaa	
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			tatgtgtgaa	gcaaatttct	agatatgaga	aatataaaaa	taattaaaac	aaaatccttg	
			ccttcaaacg	aaatggctcg	gccaggcacg	gaggctcgtg	catgtaatcc	tagcactttg	
			ggaggctgag	atgggaggat	cacttgaggc	caagagtttg	agaccaacct	gggtaacaaa	
			gtgagacctc	cctgtctcta	caaaaaaat	caaaaaatta	tctgatcctt	gtggcacaca	
			actgtggtcc	cagctacagg	ggaggctgag	acgcaaggat	cacttgagcc	cagaagctca	
			aggetgeagt	gagccaagtt	cacaccactg	ccatttcctc	ctgggcaaca	gagtgagacc	
132	4C#1		MATT CEEVER	gaattc	Nov Tomack I	S TIME OF STATES	DA CHEMINA	d COOC INDON	
301	Receptor	1.51000 - AV		LOEKNWSALL		GNILVIMAVS	LEKKLONATN	YFLMSLAIAD	sapiens

Homo sapiens	
WPLPSKLCAV WIYLDVLFST ASIMHLCAIS LDRYVALONP TISVGISMPI PVFGLQDDSK VFKEGSCLLA DDNEVLIGSF LQKEATLCVS DLGTRAKLAS FSFLPQSSLS SEKLFQRSIH ACKVLGIVFF LFVVWMCFFF ITMIMAVICK ESCNEDVIGA TLENKTYRSA FSRYIGCYK ENKRPLQLIL WYTIPALAYK WDCSMVALGK GNSEEASKDN SDGVNEKVSC V GTGGGGGGG GGGGGGGGGGGGGGGGGGGGGGGGGGG	KERFGDEMLF GSLAAFFTPL DETPCSSPEK VAMLDGSRKD
MLLGFLVMPV SMLTILYGYR WPI IHHSRENSRT KAFLKIIAWW TIS VSFEIPLTIM VITYFLTIKS LOR REPGSYTGRR TMOSISNEOR ACK LLNVFVWIGY LSSAVNPLVY TLE SSOLOMGOKK NSKODAKTTD NDC tactaaccat gctgaccact gtt tctctcttac agagtgtctg aac cttgttcac gttatctctt cta aatgaaacag attgttgagg aac catggtgata atacccacaa ttg ggagaagtg cagtatgctc ctg gaagaagctg cagtatgctc ctg gaagaagctg cagtatgctc ctg gaagaagctg cagtatgctc ctg gaccaatca atacccacaa ttg ggccaatcac tttgttgatgc cag cctccactt gttctatgtc ctg aatggtgat atacccaca ggg ttcaatagc attgcatgtc cag actggctgc ttcttcacac ctc tgactgttca agaaaggctt act gactgtttca aagaaaggctt act gactgtgtc acttgtgatag gct tacaaaggc ctgttgtcc aa aatgctggat ggttctcaca ctgactgttt gtgtggatag gct tacaaaggc ctagtggatag gct tacaaaatta actttagttt tat ggagatattt gtgtggatag gct ctcaataag acatttcggg atg aaagtcagta aaaactctca aga aagaactct aagtttttca aga agagaacttt atataagata ac tcgaatgaa ataaagtca aat tcgaatgaa ataaagtca aa tcgaatgaa aa tcaataaga ataaagtca aa tcaaaaga aa tcaaaaga aa taattaata aa tcaaaaga ataataaga ata	PIKGIETDVD VKNKPPQRLT
NM_000867	
S-HT2B Receptor	
13 133. 14 133	

attatcggc gagatgcaag attagcagtg ggaaaattt

tgccgccact gctttgtctg ggaggaget taatgttaac accggtgate gagaaagcca gtgacaatga gcccggtata agagttacca gtaaatccct ccagtgtggt tagcgaaagg aacagcacag tcttttccta cggtacaagc tacatatgta ttttctgttg gtcttaacta atgtaaatat tgctgtctga

gtcaggcaga

aaagcctcct

agcttctgaa atactctgtt aggtagagaa

ctcatggaaa cctctggtgt tgcaattata

ctatttgcgt

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ttgagaattt ; tgtgagaaag ; cttctttaat !

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	Homosapiens
	d and the second
DSCNQTTLQM RSSKIYFRNP GDKTEEQVSY	agatgcaccg accattggcct atcgttgtcg tagagtagtg tagccggagg gagctccacc aggtcacccc gctaacaccc aaggatgata ctaattggcc ctaattggca actgacatt tggccagcac atcgccattg ttgctattg gttcttattt tgcctacca gaaccgcctg gagacgacg attgctattg tgcttattg tgcttattg tgcttattg tgcttatttg tgcttattg tgctcagagag attgttttct tgcttattg tgcctaaca gaaccgcctg aggacgacg aggacgacg aggacgacg ttcttattg tgcttattg tgctcaga
	10 0 10 2 10 2 0 10 2 0 10 2
FLVLC KTLRK LTENE	ttccttcctc cttggctgct ctgtctgtac ttagtgcagag gagccaaacc ctatcgcgcc ccgtttctcg tgggttatca aaaacaacta actttggttg ccttgtgcac agctatagta ggtaaagta cttttggtt ccttggcac ttctttagat tcggtatgta cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagtc cctaaagt cccaaattc gattacgtat cccaaattc gattacgtat cccaaattc gattacgtat cccaaacttc gattacgtat cccaaacttc gattacgtat cccaaacttc ccaaactgaa gattacgtat cccaaacttc gattacgtat cccaaacttc ccaaacttc gattacgtat cccaaacttc ccaaacttc ccaaacttc gattacgtat cccaaacttc ccaaacacaacttc ccaaacacaacttc ccaaacacaacttc ccaaacacaacttc ccaaacacaacttc ccaaacaacaacttc ccaaacaacaacttc ccaaacaacaacttc ccaaacaacaacttc
FITNITLVLC ATKSVKTLRK LDTLLLTENE	ttccttcctc cttggctgtac ctgtctgtac ttcgtccgtt tagtgcagag gagccaaacc ctatcgcgcc agcgcagcgc
FLFLLMWCPF FGRYITCNYR STIQSSSIIL	cagaaggacgc aactcttctt tgtgatggcc aagacgcgat ggagcgcgcg gcagccgagt cggacgctag ccatctttaa tgcattcatt gcccagtagc tccagtagc tcccagacg tccagtagc tcccagacg tccagtagc tcccagacg tatcgcgaga ccattctt tcccctgt tatcgcaggac tatccctgt tgctcaacga ccattatggt tactgcacga gaagaaaaga aagcttcgaa gaagaaaaga cattatggt tactgcacgg tactgcacgg tactgcacgg cattatggt tactgcacgg agaggaatac tactgcacgg agaggaatac gaagaaaaga aagcttcgaa gaagaaaaga aagcttcgaa
	cttg gatag cttatg cttatg cttatg cttag cttag cttag gatat cttc cda cttc cda ctttc cda ctttc cda ctttc cda cttt cda cttt cda cttt cda cttt cda cttt cda cttt cda cttt cda cttt cda cttt cda cda cttt cda cda cda cda cda cda cda cda
RASKVLGIVF TLENKTFRDA MYQSPMRLRS	ctggtgcttg cggaggacgc attgctatc attgcatatg aactcttctt gtgaggaggt gattgctagc aagaaggaaaa agaaggcgat gtaagaagaaa agaagaggcgat gtaagaggaggtggcgattcctcc cggacgaggttcctcc cggacgcgagttcctcctcc cggacgcgaggacgagagagagagagagagagagaga
KSVQTISNEQ VSSGVNPLVY HGIRNGINPA	ggtaggcgct ttactgcctt ttactgcctt ggggcaaacg ctaagctaga acccaaagga acccaaagga acctcgccga gcgggctccg ataacatagg agctgctcg ataacatagg agctgtcctg ataacatagg agctgtcctg acatcgtaac aaagaaactg gcatagcac gctcataggt ttctataggt ttctataggt cgtcgaaca ggtttcttc gcgccgaca agctttcttc gcgccgaca ggatttcctg caaagacaac gcatagcac acatcataga actaacataga actacataga actaacataga actaacataga actaacataga actaacataga actaacataga actacataga actaacataga actaacataga actacataga actaacataga actacataga accaaaga accaaaga accaaaga accaaaga accaaaga accaaaga accaaaaga accaaaaaga accaaaaaga
LMRRTSTIGK LLEI FVWIGY MAENSKFFKK	acccgcgcga accttcccga actttcccga tagttagtta tggtcagtta gcgcacggtc cattcctctc accgactgc gccgcggcga gcgagcatct tgatgaacct ttaagcatggt taagcatggt taagcatggt ttaagcatgga ttaagcatgga ttaagcatgga ttaagcatgga ttaagcatgga ttaagcatgga ttaagcatgga ttaagcatgga ttaagcattgct tctaagcttcgt tctacgttct gactaagtct caaacccta ttgggcaat tttgggcaat tttgggcaat tttgggcaat acctattcgt tctacgttct gactaagtct caaaccatgc atcctattcgt tctacgttct gactaagtct caaaccatgc atcctattcgt tctacgttct gactaagtct caaaccatgc atcgttct gactaagtct caaaccattcgt tctacgttct gactaagtct caaaccattcgt tctacgttct aaaaggtgtt aaaaggtgtt caaaccattcgt caaaccattcct caaaccattcgt caaaccattcct caacattcct caacattcct caacattcct caacattcct caacattcct caacattcct caacattcct caacattct
13Z;	
	nm_000868
	e e
	N O
	Receptor

ttacagaaac ttccaaactc acttacacac tttctaaaac acaagggcag caacactggc gtctacctgc gaatgagatg agcatgagtt ccatcgattt ttcagcaatc actggaaaca aacaaaatat tggtaattat atatactcat tttgatgtat tattttctgt tgtcttattc attgcactgc aataagtgtt tttaatagtt cacacaactg acaaattcag tgctcatcta gagtcagagg tttcacttc gtgttttcat cccagagtta gaaatttgtg ttaattatgg gtattggaag tgggccctta tatgctgtgt tgatgaataa tccttccttt tttqcaggtg aatgttgtgt cagctggtta ccattcagtc gtgcccattt tttacaaaga agtaaaactt caagctcttc gttgtgttac cttgacagtt aaaatctgaa atagtctgcc atatgaagca aagaaaatcc gttagaaaa ataatagctc tatqaaacaa ttttataaat tgccttatat tgcaaagtgt gaaatgagat gaacteggga tttcagatcc atttgatttg tgaaagtcaa gcatgcattt ttgcatgaat qtacccaacc aacaaatcat tacattagtg tttgattgtt tttcctttct tcaggtggca acctaaatta attcttgctc atctgtcagt acattgtcag tttaacatag accaaatagc actgaaatta cagcatcctg aaatatttc actacagaat tcagtagcat tacagtetet agaaggactg aagttgaatg tgcagtttgg atctacaaac tttaccatca tgcaacagac tgtgaatggt tacactttac tttctgatac caacaagcaa ctctaagaat taaagtcagg aaatattaca taaaataatt gccatgtatg tagtgtgagt tagcacatgt gtacttaata caatcatqcc catgttcatc tttcaaccac caaaaatttg atagtggtat gatgtaatac agccttatta ttgattaagg cacttttacc tttatgtcat gtgaaagtgg atttccatac agttcttacg tggttaatga gataaatcca aagaaacaca actaacttat tccttccttt attaaactgg gttttgatct tccatttttg aaaatatagt tactagcaat tggtatttt ttqtacttta ataggtggag taggttctgc gtccctaaac catcaattgg tagtattttg aatttagcag gaagttttac attaaaaaga ttaaacaaaa cagctaattt aatctttgtt gcctgctgct caagcattgc tagtaacagt tcatgatgct atcttaaaat acacagtata aggaaactca gagcatgccc aagtgcatgt aaaatggctg ctgcatgtat agctgataga agatctgaag ggcaagctca tcaagtagta gtaagttctg tcaatgttaa aggtgatgaa gtaagacacg tggcaacgtt acagtaaata catatagggg aggataatga ctgattatta taattctatg agtggttata ctcccttctt tgttctcaac agggcagaat ataattgtaa gtatatctgt ctttgtcaaa tataggactt gaaaaggctg caagtgtttc gcctctcagt ccatgcattc gaactatcag tgtgctattc atcttaccct ctttqcaacc actgtttata tttgctctcc ggcacatgac ttctgggtta cacagtaaga tcttgttgtt tgcaatgtct cagaagtgga tgttcaaatt agtaaattcc caggattcaa aaagtgaaat agaaactttg aaaaaagta catttggatt cagaagttta tcattcgtgg gaaaagtttt ttggaagaat gctgtatttg tcatttgctt aggtetgttg taccgaaatg agatggtgtc tttccaaaag tcttgtgtca tttgtgcata ccttggtctg tattatatat aattcttctc accgggacta tgcttcacac tatagatggt acggagtttc tctagtgcag agttatttac ggccatcatt tctaaaccat gcagagtata tggataaatt ctgagaatgt tggaagagct caaacatcag cttgcctgtt atttaattct ctgcacatac gtattaatgt cttaaaaaga tctgatttct aaatcacaga tgttaatgat cctcaagttg ttggatataa agtccatgtg ttacatatag aatgtttatt ctctcttct accagaatga tggacatttg cacatataaa cagaacctag tggtatttac ttaaggacag tctggtcctt tttcccaacc tacctctgtc gaatgtgaaa ttctatattt

Homo sapiens	Homo	Homo sapiens	Ното
ttattaaatt GVQNWPALSI P LLAILYDYVW AIMKIAIVWA VITYCLTIYV KKERRPRGTM NVFVWIGYVC LNVNIYRHTN	ggagggtttc A gatggccatc gaaaataaaa gctggtgatg gttttgtctt gtgctgcatt caagatgacg tatttctttt aaaagagaag ctacgccatc ctattaccgc gggagaga ctattaccgc gaggacagag ctattaccgc gaggacagag ctattaccca gcaggtgtgg ctattaccca gcaggacaca gcaggacaca gcaggacaca gcaggacaca tgaggacaca taatggatcc tgaggacaca tgaggacaca taatggatcc gtgtcacccg tgggacaatg taatggatcc	RKIKTNYFIV P LCCISLDRYY EKRKFNQNSN RAGASSESRP GQVWTAFLWL INGSTHVLRD	cccgcactc A
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ttatgagact aaaaa AAIVTDIFNT FLMSLAIADM DRYVAIRNPI DPNFVLIGSF TAEEENSANP NILSVLCEKS KKPPVRQIPR VSERISSV	gatgctaatg tttctctcga tgctgggaca actggattt acggcatcga cagcctttgg tgctgggtca ggcataattg tttctcctca cagatccaga cagatccatg atggttgct atagactaca atgggttgct atcatcctct ccttgttcaa ggtggccagt ccagtgaca atgccagtcca tccagtgaca atcatcctct ccttgttcaa ggtggccagt ccagtgaca tttccctct	IMAILGNLLV VECLVRTSLD FISELPIMGG AYYRIYVTAK CWAPFFVTNI	acctccccgc
actacaggtt aaaaaaaaa wQCDISVSPV EKKLHNATNY SIMHLCAISL FVNNTTCVLN LDFLKCCKRN LIMWCPFFIT NYLRCNYKVE LELPVNPSSV	ggacaaactt gctgctcacg ggttgctttt ggttcaagac cctgctcaca catctgctttt gaataacat tacgtactgt ctacatccca gtcggcaga gtcggcaga gtcggcaga gtcggcaga gtggatcat tgccttcct ccagactgtc ggatccttc ccagactgtc ggatccttc ggatccttc ccagactgtc agtggagtgt ggctgctcag tgccttcctc ccagactgtc agtggagtgt ggctgctcag tgccttcctc ccagactgtc agtggagtgt ggctgctcag tgccttcctc ccagactgtc ggatccttcct ccagactgtc ggctcctc ccagactgtc ggctcctc ccagactgtc ggctcctc ccagactgtc ccagactgtc ggctcctcc ccagactgtc ggctcctcc ccagactgtc ccagactgtc ggctgctcag ggctgctcag ggctgctcag	VLLTFLSTVI LVQDIWIYGE MLGGCWVIPT FYIPFLLMVL LCIIMGCFCL RAFLIILCCD	ccctcaccc
tatgttatcc tgaaaaaaa FLVHLIGLLV NILVIMAVSM ISLDVLFSTA VIGLRDEERV GHTEEPPGLS KVLGIVFFVF FNKIYRRAFS	ttcctgtaat agaaggtggt tgctggtgat tcattgtatc ccattgact ggtattacgc tcgcattaat tgcaaggtg tggtggcctt aggtgaggc ccaagaccct ccaagaccct ccaagaccct ccaagaccct ccaagaccct ccaattgt tctggctcgg ttttagacg cttttagacg cattctggt gcaggatgc ccattctggg taagggatgc ccattctggt ccattctggg gcattcttggt ccattctggg ccattctggg ccattctggg ccattctggg ccattctggg ccattctggg ccattctggg ccattctggg ccattctggg ccattcttggt ccattctttggt ccattctttggt ccattctttggt ccattctttggt ccattctttggt ccattctttggt ccattctttggt ccattctttggt ccattctttggt ccattctttggt ccattctttggt ccattctttggt ccattctttggt ccattctttggt ccattctttggt ccattcttttggt ccattcttttggt ccattctttggt ccattctttggt ccattctttggt ccattctttggt ccattctttggt ccattcttttggt ccattcttttggt ccattcttttttggt ccattcttttttggt ccattctttttttctttttttttt	EEGFGSVEKV VLVMPFGAIE NKMTPLRIAL PYAITCSVVA MRTETKAAKT LYAFINKSFR	
ctaattcctg tattaaatgt MVNLRNAVHS VIIIIMTIGG PLPRYLCPVW ISIGVSVPIP LRRQALMLLH QAINNERKAS SGINPLVYTL EPVIEKASDN	cggtgcttat gggtcagtgg ttggggaacc acaaattatt ccctttggtg gttcggacat tctctggata cctctggata accaccaga acctactcg acctactcg acctactcg acctactcg acctactcg acctactcg acctactcg accacaga ttctttgtc ttgaataagt cgaagacctt acacagaaga ccagcaactt accagcaactt accagcaactt	tcgctggg MDKLDANVSS SLAFADLLVS ALCCQPLVYR STYCVEWVNK GSADGHSTHR GYINGGLNPF AVECGGOWES	cccgagagcg
NP_000859.1	NM_000870	NP_000861.1	NM_000871
5-HT2C Receptor	5-HT4 Receptor	5-HT4 Receptor	5-HT6
134	136	136	138
16	17	18	19

	85
	7.7

sapiens	Homo sapiens
egec ecctecaggg ggetetgete ttg etecaggagt tectgeccea ttgt agtegeegec ecctgaceta cet ecceeggagt tectgeccea cet ecceeggagg gecteatet cet ggtecteatg gteceagage agg ettegeeggg gecteatet cet ggtecteatg gteceagage agg ectgacggeg geggecaact agg geegeegteg geggecaact agg geegeegteg geggecaact agg geegeegteg geggecaact agg geggeegteg geggecaact agg geegeegteg geggecaact actgacggeg ceggecaact actgacggeg ceggecaact actgacggeg ceggecaact actgacggeg ceggecaact actgacggecectg gggacggec agga geagecectg gggacggec agga geagecectg gggacggec agga geagecectg gggacggec aga geagagagg aaggeceta aggaccecgg acccaagg aggaccectg aga geacagcagg acccaacgc aga geacagcagg ttgccettet actc cecaggectc ttcgatgtcc agategaccegg ceggagggcc agttccaagg accaggacctc agaaggacct accaggacct accaggacct accaggacct accagagcct accagaggct accagagcct accagagcct accagagcct accagagccc accagagggagcc accagagccc accagagcc accagagccc accagagccc accagagccc accagagccc accagagccc accagagcc accagagccc accagagcc accagagcc accagagcc accagagcc accagagcc accagagcc accagagcc accagagcc accagagc a	CALT AAANSLLIAL ICTQPALRNT PICL IWTAFDVMCC SASILNLCLI ASFL PLLLGWHELG HARPPVPGQC YQAV QVASLTTGMA SQASETLQVP FFVT WLPFFVANIV QAVCDCISPG PRC PRERQASLAS PSLRTSHSGP ZLLL PGEATQDPPL PTRAAAAVNF
cccctattt gccgcccgccgcagacacacttc aacccgttg a gccacactgt gtcctcctgt ccatgtcccc aacccgttg ccatgtcccc ccatcactt a cggtccccgt ccatcactt catgtccccqt ccagcctgcg a ctccttgcc gtccacctc c gcactgtgcg tggtgatgg c gcgctgtgcg tggtgatcgc c tgcactcagc ccgcgctggg t gacctgatgg tggtgatcgc c tgcactcagc ccgcgctggg c gcgctgtgcg tggtgatcgc c tgcactcagc ccgcgctgcg g gcctccatc caacctctg g agcctcacac ccacctgg g agcctcgcgc ccgccagcag c tgggggctgc ccgccagaa g agcaggctc ccgccagaa g agcaggctc tagccacgaa g agcaggctc tagccacgaa g agcaggttc tagccacgtc g agcaggctc tagccacgtc g agcaggctc tagccacgc c tgcacgccac g agcaggctc tagccacgtc g agcaggctc tagccacgtc c acctgctgg actgcatctc g agcaggctc tagccacgtc c acctgcacca ctgcacccac cagcaggcca ctctccaca g ggcaggttc tgccatgtcc cagcagcccac ctgcacccac ctgcacccac ctgcacccac ctgcacccac ccaccac ccaccac ccaccac ccaccac ccacca	PP SAPGGSGWVA AALCVVIALT WM PPAMINALYG RWVLARGLCL PP SGAICTYCR ILLAARKQAV HS RKALKASLTL GILLGMFFVT IY PLFMRDFKRA LGRFLPCPRC DS DSDAGSGGSS GLRLTAQLLL IN
tgacccggcc ggacgcccct ccacccagg gagcccatcc ggctcatcgg gtgcccatcc tcccgaggg cgcccaata gcgcgaccca gcgccccagc tcgcggtctg ttctcacgga gctttcccgc caccctatca cgggcccaac ggccccatc tgaacgctg ggtggcgcc cgctgctgat gtgcggcgc tcgacgtgat gtgctgcagc actgctcat ctccacgtct tgaacgcgt gtacgggcgc tcgacgtgat gtgctgcag actgctcat ctccacggc ccctagtcct gtacgggcc gctggcacga gctgggccag gcttgaccat ctcctggg cctgccttt ggctgggc taccaccgg catggccag tcacacgg catggccag tcacacgg catggccag tcacacgg catggccag tcacacgg catggccag gcttagccaa catagtccag tcacatggct gggttactgt gggacttcaa gcgggcgctg ggccagcct ggctccag tcacatggct gggttactgt gggacttcaa gcgggcgctg ggctaagacc cacacggc gctcaggcg gctcaggagc cagactgcg gctcaggagc cagactgcg ggctagagac cagagaggc cttggctaag accaggaggc cttggctaag accaggaggc	
u Q	NP_000862.1
Receptor	138 5-HT6 Receptor

Homo		Homosapiens	Homo sapiens
acagcagcgg ccgcccggac A	egocgcacct gotgagogag acaatgcctc ggctgagogag accatcct gacgctgtggg gctccatcct gacgctgtggg tggccgacct ctcggtggct tggccgacct ctcggtggc tggccaggc ctcgatcatg caaggccct cacatacct ccgtctggct tctctccgcc taaatgatga taaggtgtgc cagtggcatt ttatatccc ctgccaggaa gagtgctgc ctgccaggaa gagtgctgc ttcgagact cctgaatggc ttcgagact cctgaatggc ttcgagact cctgaatggc ttcgagact cctgaatggc ttcgagact cctgaatggc ctgccaccac cctggggatc tcgctctcgac agccagacct tggagaggc attctgtgg acttcttcaa ccgggacctg atatcaaccg gaagctctca cagagagacc tgagtttgtg ccttcttcaa agcagaacat cagagagacc tgagtttgtg	AGSWAPHLLS EVTASPAPTW P LVVISVCEVK KLRQPSNYLI MDVMCCTASI MTLCVISIDR WAQNVNDDKV CLISQDFGYT VEPDSVIALN GIVKLQKEVE LPFFLLSTAR PFICGTSCSC CQYRNINRKL SAAGMHEALK	agagcetect etecetetgt A aatecetgga getagegget teaggcagee gggagetetg egggagetetg egggagecegg aggactatga egeggeegg atgtgettg tytgeegge atgegeettg tytgeegee etggtetetg eteatege etggtetetg ecaggegetg egggatgeea
atggacgtta	ggctcctggg ggctcctggg gtggtgatcg tccctggcgc gacctcatcg gacgtcatgt cttgggatca atgattctct gctcagaatg tactctaccg atttacaagg gagccagaca tgtgcaaacc gaacagaaag ccattttcc ccatttttcc ccatttttcc ccatttttcc ccatttttcc gaccagaca gagccagaca gagccagaca gagccagaca gagccagaca gagccagaca tgtgcaaacc	LSPDGGADPV ITLLTIAGNC GHFFCNVFIA ASITLPPLFG AKHKFPGFPR IIVGAFTVCW LRTTYRSLLQ	tctgaatccc cactggaagg gacagaacag agcgctgcgg gccctacgcg cctgccggcc gtgcccagcc gtaccagcc
	cocggtcgcg cacctgggaaa caactgcctg cctgatcgtg catcgccatg tgacaggtac cattggcgaag ctttggatgg ctatacgatt gtactaccag ccctcgagtg ggtggaagag gttctgactg ccttaagcga ctttaaccct cattaaccct cattaacct cattaacct cattaacct cattaacct cattaacct cattaacct cattaacct cattaacct	LPEVGRGLPD KVVIGSILTL TDLIGGKWIF KMILSVWLLS QIYKAARKSA REQKAATTLG PFIYAFFNRD KGHDS	
	gracecase actacages actacages actacages actacages actacages the gracect contract accecact aggaratg tracticat tractage tracticat traceges acattaces acatacas acattaces acatacas acatacas acatacas acatacas acatacas atgaraage acatacas acatacas acatacas acatacas acatacas acatacas atgaraacas acatacas acatac	DLYGHLRSFL GEQINYGRVE AVAVMPFVSV PVRQNGKCMA PMSVMLEMYY HERKNISIFK WLGYANSLIN	
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NM_000872		NP_000863.1	Adenosine Al NM_000674 Receptor
5-HT7		5-HT7 Receptor	Adenosine Receptor
139		139	272
21		22	83

	Ното
c ctggtcatcc c ctcatggttg c ctcatggttg c ctcatggttg c accctatgt c accctatgt c accctatgt c accctatgt c accctatgt c ctggagggc c ctggagggc c ctcatggag c ctcatggag c ctcatggag c ctcatggag c ctcattggag c ctcatggag c ctaggag c ctagtatct c ctaggag c ctagtatct c ctaggag c ctagtatct c ctaggag c ctagtatct c aggactttag c catagtatct c ctagtatct c aggactttag c ctagtatct c aggacttcag c ctagtatct c aggacttcag c ctagtatct c aggacttcag c ctagtatct c aggacttcag c cctagtatct c aggacttcag c cctagtatct c aggacttcag c cctagtatct c aggacttcag c cctagtatct c aggacttcag c cctagtatctca	VS LAVADVAVGA P
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catcgtgtcg cctcatcac cctcatcac cctcatcac catagccgag catagccgag gtgggtgctg gcgcaagcag gcgcaagcag gaaggagctg ccgctgccag gacccgctgc gacccgctgc gacccgctgc gaccccag gaccccag gacccag gcccag gacccag gacccag gacccag gacccag gacccag gacccag gaggaatcaag gaggaatcaag gccag gaggaggaggct aaggatgaggc ccaccag gccag gaggaggaggc aaggaatcaag gccag gaggaggaggc aaggattgagg aaggattgagg aaggattgagg ccaccag gcccag gaggagaga gaggaga aaggattaag gaggaatcaag gccaccag gaggaatcaag gccaccag gaggaatcaag gccaccag gaggaatcaag gccaccag gaggaatcaag gccaccag gaggaatcaag gccaccag gaggaatcaag gccaccag gccaccag gaggaatcaag gcaccag gccaccag gccaccag gcaccag gccaccag gcaccag gcaccag gccaccag gca	tgtgaacct AYIGIEVLIA
ccttctgctt ccctcgccat ccctgtccggt accgttacct aggcggtgat acttctttgt tctacctaat agaccgttgat acaagcccag acaagcccag acaagccag acccattgt atgatgacta tgggggcat tagtaccatt tggggggcat accaagcc ggtccag ggtccag ggtccag ggtccag ggtccag ggtccag ggtcat gaagggag accaagggg ggtcat gaagggag ggtcat gagaggag gctat gagaggag gctat gagaggag gctat gagaggag gctat gagaggag gctat gggaggag gctat gggaggag gctat gggaggag gctat gggaggag gctat gggaggag gctat gggaggag gctat gggaggag gctat gggaggag gctat gggaggag gctat gggaggag gccattctgc cctat gggac gggac gggac gggac gggac gggaggag gccattctgc gggac gccattctgc gggagagagagaga gccattctgc gggagagagagaga gcccattctgc gggagagagagaga gcccattctgc gggagagagagaga gcccattctcc gggagagagagagaga gcccattctcc gggaccctgggagagagagagagagagagagagagagaga	aataaaaaac MPPSISAFQA
	000665.1
	ine Al NP
	Adenosine Al

	Receptor	•	LVIPLAILIN	IGPOTYFHIC	LMVACPVLIL	TOSSILALLA	IAVDRYLRVK	IPLRYKMVVT	sapiens
			PKKAAVALAG	CWILSTVVGL	TEMPEGWANES	TAKKARARG	DOKYVEKEL	KTAKSTALIT.	
			FI.FAI.SWI.PI.	HILNCITLEC	PSCHKPSILT	YIAIFLTHGN	SAMINETOXAE	RIOKERVTEL	
			KIWNDHFRCO	PAPPIDEDLP	EERPDD				
273	Adenosine	NM 000675	tttgcaggtg	cctcaggaac	cctgaagctg	ggctgagcca	tgatgctgct	gccagaaccc A	Ното
	A2a Receptor		ctgcagaggg	cctggtttca	ggagactcag	agtectetgt	gaaaaagccc	ttggagagcg	sapiens
			ccccagcagg	gctgcacttg	gctcctgtga	ggaaggggct	caggggtctg	ggcccctccg	
			cctgggccgg	gctgggagcc	aggcgggcgg	ctgggctgca	gcaatggacc	gtgagctggc	
			ccadcccdcd	tccgtgctga	gcctgcctgt	cgtctgtggc	catgcccatc	atgggctcct	
			cggtgtacat	cacggtggag	ctggccattg	ctgtgctggc	catectggge	aatgtgctgg	
			tgtgctgggc	cgtgtggctc	aacagcaacc	tgcagaacgt	caccaactac	tttgtggtgt	
			cactggcggc	ggccgacatc	gcagtgggtg	tgctcgccat	cccctttgcc	atcaccatca	
			gcaccgggtt	ctgcgctgcc	tgccacggct	gcctcttcat	tgcctgcttc	gtcctggtcc	
			tcacgcagag	ctccatcttc	agtetectgg	ccatcgccat	tgaccgctac	attgccatcc	
			gcatcccgct	ccggtacaat	ggcttggtga	ccggcacgag	ggctaagggc	atcattgcca	
			tctgctgggt	gctgtcgttt	gccatcggcc	tgactcccat	gctaggttgg	aacaactgcg	
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			tggtgccct	gctgctcatg	ctgggtgtct	atttgcggat	cttcctggcg	gcgcgacgac	
			agctgaagca	gatggagagc	cagcetetge	cgggggagcg	ggcacggtcc	acactgcaga	
			aggaggtcca	tgctgccaag	tcactggcca	tcattgtggg	gctctttgcc	ctctgctggc	•
			tgcccctaca	catcatcaac	tgcttcactt	tettetgeee	cgactgcagc	cacgeeete	
			tctggctcat	gtacctggcc	ategtectet	cccacaccaa	ttcggttgtg	aatcccttca	
			tctacgccta	ccgtatccgc	gagttccgcc	agaccttccg	caagatcatt	cgcagccacg	
			tcctgaggca	gcaagaacct	ttcaaggcag	ctggcaccag	tgcccgggtc	ttggcagctc	
			atggcagtga	cggagagcag	gtcagcctcc	gtctcaacgg	ccacccgcca	ggagtgtggg	
			ccaacggcag	tgctcccac	cctgagcgga	ggcccaatgg	ctatgccctg	gggctggtga	
			gtggagggag	tgcccaagag	tcccagggga	acacgggcct	cccagacgtg	gagctcctta	
			gccatgagct	caagggagtg	tgcccagagc	ccctggcct	agatgaccc	ctggcccagg	
			atggagcagg	agtgtcctga	tgattcatgg	agtttgccc	ttcctaaggg	aaggagatct	
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			ctgagggcag	ccggttccta	ctttggactg	agagaaggga	gccccaggct	ggagcagcat	
			gaggcccagc	aagaagggct	tgggttctga	ggaagcagat	gtttcatgct	gtgaggcctt	
			gcaccaggtg	ggggccacag	caccagcagc	atctttgctg	ggcaggccca	gccctccact	
			gcagaagcat	ctggaagcac	caccttgtct	ccacagagca	gcttgggcac	agcagactgg	
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			ctagactctc	ctagggttca	ggagctgctg	ggcccagagg	tgacatttga	ctttttcca	
			ggaaaaatgt	aagtgtgagg	aaaccctttt	tattttatta	cctttcactc	tctggctgct	
			gggtctgccg	teggteetge	tgctaacctg	gcaccagagc	ctctgcccgg	ggagcctcag	
			gcagtcctct	cctdctdtca	cagctgccat	ccacttctca	gtcccagggc	catctcttgg	

89

	Homo sapiens	Homo	
	α	∢	
agcatgggcc tagcgcagag ttttttctga aaaaaaaaaa	ADIAVGVIAI RYNGLVTGTR VVPMYYMYF AAKSLAIIVG RIREFRQTFR APHPERRPNG VS		
gcagtgccag atgtgctgag aagggaatgt caaatgaaaa	TNYFVVSLAA DRYIAIRIPL EGQVACLFED ARSTLQKEVH SVVNPFIYAY HPPGVWANGS		
ttgtaacaga ggccactggc tttccttcta taagcttgtc	VWLNSNLQNV SIFSLLAIAI EGKNHSQGCG MESQPLPGER YLAIVLSHTN GEQVSLRLNG KGVCPEPPGL		
ggatagggag ggggctggca tctaactgcc catcgtgtt	ILGNVLVCWA ACFVLVLTQS LGWNNCGQPK FLAARRQLKQ DCSHAPLWLM ARVLAAHGSD		
ctgggatcaa gggagaggtt agaggccttg aaacgagcca	TVELAIAVLA CAACHGCLFI LSFAIGLTPM LLMIGVYLRI IINCFTFFCP QEPFKAAGTS AOESOGNTGL	ttagttatco gegegaactt egegggeceaa ceagegecea ggageteggtc eagegeac ggageteggtc eagegeac ttagactte ttaaaagtt ttaaaagtt ttaaaagt etgaacaaga teagegeact taaactgt tcaagegeac taaactgt tcaagegeac taaactgt tcaagegeac taaactgt tcaagegeac aaactaaga tatggccat tatggccat tatggccat tatggccat caattcaag atctagget acttagget acttagget acttagget acttagget acttagget acttagget acttagget cacttccet gattgacaaa atctagget cacttccet gattgacaaa atctagget cacttccet gattgacaaa	
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	NP_000666.2	MM_000676	
	Adenosine Aza Receptor	Adenosine A2b Receptor	
	273	274	

gtctgccatc

atcagagatg tgtatgcctg

gtagttatcc cttgagggcc tgggagcatc aacgtattat

agcctgtgtg

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tttggacaca

gttcaaggaa

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actctqtctc

tttttacatc

acctaccttt agattcccca tccagtgctc

cttcattttt

tccactgagg

tccactactc tggaggcctg

cttgattact

tcatttccat

tggtggtgac

aacatgtgtg acttggggac aagtcatgga

aaaaggetet agttgggetg

acttactgac

atagaagaat

gcctgaaggg

sapiens sapiens Homo Þ cgtgcaagaa agggtttcca ggattgaccc tacatcattc tatggacggg tcatggctgc tatgcctata AADVAVGLEA HAAKSLAMIV atqtqcqqtq gactgtcact tacagacgga cccaacaca attggactct agcctgcaga ggggtgctgg agctgccttt ctggccatcg accactcaca accttccttt ttcctcacct cttgtgctgt CLFENVVPMS ttttttgttc ctggtccctg tcatggctcc tcttggccca caaaaagcca agcagcactt LRYKSLVTGT AYRNRDFRYT gcagaaagat atacttcagc gggaatttta tgacatcttt aggtgcattt ggtaccacag PTNYFLVSLA VDRYLAICVP TINESCCIVK ANSWANPIVY ccaaagtctc tgctaagctg gcactgtcct tctatgccac ctgtacttcc aactaagagc aaacttgagg tctaaggaga ccactggccc aggcaagatg ggaaattttc gctgaacccc cattgctgtt ccacttctac catgtccttg caagagggtc attectggtg cagaaatgtc gtttgctctg ccctatcgtc HSRTTLQREI tgatggaact agcgtcaact AMMAILLSH tgctcagcaa ccatgatgaa SSIFSLLAVA ROLORTELMD gaggetgeea agagctaggc tcccctggga ccctggctga gcatcacaat acgcctccat ggctggtgtc cagagtacca actacatggt ccaaagagac ttctttctt ttaatggtga AVGTANTLQT TNNCTEPWDG gagatcttt acctgatcct tegageette gttctgagct ttgcttatct ctgtttgggg agcattctgg atgagccctt tgagcaagtt acatcaccat gcgtggtcaa ccgtcagata ccatctatct G ctgaagaggg ttgaggacat gctgtcctac aatgttacct ctggtcatct aaactgacct atgagaatgg ttgtttctgg gtatcggctg ctctgctccc tttgctgaga cccacctgtg agggtaggaa acgtctggcg ctgtggaggt gtctctctag gtcagcctgg atctttaccc gtcaagctta ggcctttgct catgccaact SVAGNVLVCA LACEVLVLTQ IYIKIFLVAC PAQGKNKPKW tccttatcat caatcttgtc gtcatgtgcg ttatctaact atcatctact FLGWNSKDSA QAGVQPALGV ctaaggttag ggctaagtcc catcaactgc tgtttccgtc cagtctgaac cctgctgtcc ctggaagtga ccaccagaaa gtcattggcc gggcaacgtg ctatttcatt ggccattgtt cctactgctt atacttgcgg gctggccctg ctggaacatg cccctggtt VLPPLLIMLV HAVNCVTLFQ caaaggctgg cccgtttgcc gtgcttccag ctctgatacc tttccatct tgaaacaccc ggcagaggcg tccatataga ctctgggaag tcacctgtcc VALELVIAAL FCTDFYGCLF VLAFGIGLTP CQADVKSGNG atagttctgg tcttctgctc RARGVIAVLW agagatcacc tcttgctggc ggattttcat IPFAITISLG YMVY FN FFGC GIFALCWLPV ctctgcttct tqcataqtca aatgaatgaa tctcacttcc aaaagctgca tcagattcag cataaagggg gcacatggac gcactgctct ccaccacctt tcatgccttt ttatgacttg ctgtggaccg gaagaatatg ccatgtttgg catgccaatt ggaacaaact agttcaagac ctttatctat acatgggcat MLLETODALY FHKIISRYLL atctttgctg cttagcagga gcgccatagt NP\_000667.1 Adenosine A3 NM\_000677 A2b Receptor Adenosine Receptor 275 274

53

Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
ctcggaggat gcctagaaga tgttgggaac taaactgctg aattcacctg tggatgttt VLVICVVKLN PSLQTTTFYF IVSLALADIA P LIFTHASIMS LLAIAVDRYL RVKLTVRYKR MKLTSEYHRN VTFLSCQFVS VMRMDYMVYF NLSNSKETGA FYGREFKTAK SLFLVLFLFA SHANSMENRY VYAYKIKKFK ETYLLILKAC	atcaacaaca cagcaagaaa taattccgac A titttcacaa tttccattgt tggagttttg aagaataaga atctccaggc acccatgtac atgctggca gctatataa gatcttggaa tatctcaagc cactctccc tgcttggcag ttttgaaacc gtcctctcc tgcttggctc catcttcagc accatcttcc acgcactgcg gtaccacagc cttacggtca tctggacgtt ctgcacgggg catgtgcca cagtgatcac cttcacgtcg tgcctctatg tgcacatgtt ctgcacgggg tgcctctatg tgcacatgtt ctgcacgtcg tgcctctatg tgcacatgtt ctgcacgggc tgctctatgtgcc cctttgtgct tctgcagggg tgccatcacaagcca acatgaaagg ggccatcacaagtcacttgtgct tcatgtcctc tgccaggagc actgtctct tttccaggagc	GNIVULAVE TADDIIDSLE TGITMVIESH LTILLGVEIF	cccggccacc gacggccgcg cgttgagatg A gagggacccc gcccggacag cagcgcaggg gcgggcgcg cggccccctc ggagggcccg ggcggggggcg cggcgcggg gtgagcgcg gagggcgtggg cgcgagcgg gtgagcgcg agggcgtggg cgtgggcgtc gcaggtaacc tgcttgtcat cctctcagtg aactatttca tcgtgaacct ggccgtggcc ttctcggcca ccatggaagt tctgggcttc tgggccgcc tggacgtgct gtgctgcacg
aattgagcag agaacctgct aactgagttt aagggggact aaagctaata g ANVTYITMEI FIGLCALVGN VVSLGITIHF YSCLFMTCLL LGLCWLVSFL VGLTPMFGWN VVMCAIYLDI FYIIRNKLSL CIIYFNGEVP QLVLYMGILL TSIFKNSE	ttatcaactc gtatgaaaac tggtttgcc ggaggagata tcgtcctgct ggctgtgttc gtagcttggc catatctgat tcatattgag aaacatgggc acatcatcga ctccctgttt ttgctgcgga ccgctacatc tgcgccgcac tgtggtggtg ccatggtgat ctccccat tgatgctggt ctcatcctg tgatgctggt ctcatcctg tgatgctggt ctcatcctg tgatgctggt ctcatcctg tgatgctggt ctcatcctg tgatgctggt ctcatcctg tgatgctggt ctcatcctg tgatgctggt ctcatcctg tgatgctggt ctcatcctc tgatgccagagagagagagagagagagagagagagagaga	SUBJECTION CONTROL OF THE MINISTRANSD CPRVVLPEEI MILGELYKILE NILIILRNWG TIFHALRYHS IVTWRRTVVV CLYVHMELLA RSHTRKISTL CACYMSLEQV NGMLIMCNAV	cgctcgttct gtgcccccgg atctcctgag cgtcagtttc cgggcggcgg cgggggag gcgtgcggggggggggggggggggggggggg
gccattgtgg agaagaaata tgagtaaata WGWLWMPLAI VGVLWMPLAI VTTHRRIWLA SFLTWIFIPL LSWLPLSIIN	atgaageaca tyteatgeacaca tyteateatea tttttcatet aatatectga acagecgatg atcgttgacca actggacca actggacca ctgttcccgc ctgttcccgc ctgttcccgc ctgttcccgc	CCGGGGCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	tcctgccggc gcttccagcg ggctccagcg gcgaggacg ggcgaggaca aatggcacg ttcctggcag gcctgcac gacctgcac gacctgctac
NP_000668.1	NM_000529	NP_000520.1	nm_000678
Adenosine A3 NP_000668 Receptor	Melanocortin NM_000529 2 Receptor (adrenocorti cotropic hormone) (MC2R)	Melanocortin NP_000520 2 Receptor (adrenocorti cotropic hormone)	Alpha 1d- adrenoceptor
275	309	309	376
30	31	32	e e

	Homo sapiens	Homo sapiens
tage ectgetetaga agec egtgeceect tete etcegtgteg geaa geaeggeatg geaa geeteegag gage geaeggeatg tegt getetgetgg traga geaeggeatg traga geaeggeate ecc eggageetee ecc eggageetee ecc eggageetee eggagegggggggggggggggggggggg	PGGA GGGGGVVGAG P TIMA VAGNILVIIS AAFCD VWAAVDVICC VSVG PILGWKEPVP KSIEA GVKRERGKAS AAKTL AIVVGVFVLC RREFK RAFIRLIRCQ LIPDP DPEPPGTPEM	ctgc caggagggcg A lagga gccttcgccg ctaa gatgaatccc lagtt gaaaaatgcc agct ggacatcacc
aaggaggac acatactgga ctgatggat ggaaggagca gtcatgtact gacgaggagcaa gtcaaggag agagaggaa gtcaagggag agagaggaa t togatcaaga gagaggga t tagttatac agagaggaa t tacttaaaa gatgattagt gattataaaa gatacttaga gattataaca gatacataga gattataaaaaataa agagaacca agagaacaa agagagaacaa agagaaagaa agaggagaacaaagaa agaggagaacaaagaaaaaaaa	S SAGGAAPSEG PAVGGVPGGA L VVSAQGVGVG VFLAAFILMA L PFSATMEVLG FWAFGRAFCD E RKAAAILALL WVVALVVSVG I VVMYCRVYVV ARSTTRSLEA R SSLSVRLLKF SREKKAAKTL L GYFNSCVNPL IYPCSSREFK A PSSGDAPPGA PLALTALPDP L RAKVSSLSHK IRAGGAQRAE	
		Abdalowas unusantas cgtgctgcgg gctgggctgc gaagaccacgg ggggaagcaa gagcccaatc atcccccagg ccggccacaa cacatcagca gccccaacca gacctcgagc ctgtgggcct ggtgctgggc
		AVSLGVENEV AEGA aggcaggaga cgtg cctctgggaa gaag cagccttcc gago gacctggaca ccgg aacttcactg gccc
•	NP_000669	NM_000679
	Alpha 1d- adrenoceptor	Alpha 1b- adrenoceptor
	. 376	377
	34	35

Homo	Homo sapiens
transcribe ggacgeceae caactactte tiggacttea ecgtectgee etteteageget transcribe gggccatet tetgtgacat ettggacage ettetagacett ettgtgacat ettggacage ettetagacett eccaegetgg teaecegaag gaaggecate eccaegetgg teaecegaaga accettetat tac accetecttgg teaecegaaga eccettetat tac atcectetgg teaecegaaga eccettetat tac atcectetgg teaecegaaga eccettetat eac atcectetgg eggteatetet agteatgtac eac accaagaace tagaggcagg eggteatgte eac accaagaace tagaggcagg eggteatetet agteatgtac eac accaagaace tagaggcagg eggteatgte eggaaggceetggggggggggggggggggggggggggggg	•
atcctagtca tcttgtctgt ggcctgcaacattgtcaacc tggccatggc gacctgctg gtggatgtcc tgtgctgcac ctgggtgctg gtggatgtcc ttggatgtcc tgtgctgcac tgggaaggac tcagtgtctg ggtcttgtcc tggaaggacccaa agatgacaagg gcctcttct cttctctgc cttcttctgc attaagtggc caagagaaccgaaggtcct atatagtggc caagagaaccgaaggtcca atctgtgct atatagtggc caagagaaccgaaggtccactttaagttct atatagtggc caagagaaccgaaggtccacattgtct acctaggaaaa gaaagaaccgcactttaagttct acctaggaaaa gaaagaaccgcaaggagacccccacatca tctacccatca tctacccatca accccacat accaccaca acccacaca tctacccatca accccacaca acgacacagacagaccccccacaca tctacccatca accccaccaca acgacacagacagacacccatca tctacccagac acgacagacag acccagact gcaccggcc gcaccgccg tggacgccccccacaca tctacccagac acgacagacag acccggac acgacagaca	tcatgtgcag gattctcgta tcgggtaggg cggcagccc gagggttccc caaacccacc ccgcctccgc
7 Alpha 1b- NP_000670. adrenoceptor	9 Alpha 1c- NM_000680 adrenoceptor
. 36 377	37 379

	Homo sapiens	Homo sapiens
tcttgggggg cctgtcaccg acctcctgct gggccttcgg cgtccatcat tgcgctaccc cactctccct acgagaccat ccttctacct agagacatgg tgcccattgg tttggctgg tgcccattgg tttggctcgg agtccaaaga aggacatgg tttggctcgg tttaggaga agtccaaaga tctgctgctg tttaaggaca tgtccaaaga tctgctgctg tttaaggaca tctgctgctg tgtccaaaga tctgctgctg tttaaggaca tgtccaaaga tctgctgctg tttaaggaca tcttgctgctg ttaaggaca tcttgctgctg ttaaggaca tcttgctgctg ttaaggaca tcttgctgctg ttaaggaca tcttgctgctg ttaaggaca tcttgctgctg ttaaggaca tcttgctgctg ttaaggaca tcttgctga tgtcccaact accagttcag tattctttga tgacccactt	VACHRHLHSV P TASIMGLCII EDETICQINE QVTLRIHRKN VMPIGSFEPD SSKHALGYTL TVSKDQSSCT	cggctcctgg A atgcggcccc
ctcgggggtga ctctccgtag gcggtggccg tgctgcaccg agctacccgc tgcgtctggg gcccccgagg gcccccagg gccccagggcca tcggagcca tcggagcca aaagcggcca tcttagtca aaaatagtat tccagccaag aagcagtctt tcttagtca aagcagtct tcttagtca aggataca tcgaaaaa aggatacaa aggatacaa tcgaaaaa aggatacaa aggatacaa tcgaaaaa aggatacaa aggatacaa tccaaacaa aggatacaa aggatacaa aggatacaa aggatacaa aggatacaa aggatacaa aggatacaa aggatacaa aggatacaa aggatacaa aggatacaa aggatacaa aggatacaa aggacaaaca aggacaaaca aggacaaaca aggacaaaca aggacaacaa aggacaacaa aggacaaacaa	VLGNILVILS IWAAVDVLCC PLEGWRQPAP GLKTDKSDSE FVLCWLPFFL LRIQCLRRKQ SSMPRGSARI	ENGEEV gcctccgtcg gggtgccttc
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tregggtga tregggtga treagtcacac atcatcacac accagagga attgaccc aaacaacgcc atcatctgg aagtctggcc aaaaacgcc ggctgattca agttttattc tttttcttt tttttctt ttaagcacac ctaatgaaga tcaaccacag tcaaccacag tcaaccacag tcaatcataga accacagga tcaatcataga accacagga tcaaccacag tcaacacag tcaacacacag tcaacacacag tcaacacacag tcaacacacag tcaacacacag tcaacacacag tcaacacacacag tcaacacacacacacag tcaacacacacacacacacacacacacacacacacacac	SSNCTQPPAP ADLLLTSTVL PLRYPTIVTQ GSFYLPLAII AKTKTHFSVR VEWLGYLNSC HKDMVRIPVG	EVCCCVGPST cccaccaggc gttcacctgc
ccaaccyccy cctcattctt acacctcacy caggyctctc gygcctctgc gygcctctgc gygcctctgc ctyccagatc cygcygcctc ccygygcctc ccygygcctc gygcattctca atatctaaac gycattctca catcytygtc gycattctca catcytygtc gygaatgyaaa ccatcytygc gygaatgyaaa ccatcytygc gygaatgyaaa ccatcytyg caacgaaaa catcytyg caacgaaaa catcytyg caacgaaaa catcytyg caacgaaaa catcytyg caacgaaaa catcytyg caacgaaaa catcytyg caacgaaaa catcytyg caacgaaaa catcytyg caacgaaaa catcayg caacgaaaa catcayg caacgaaaa catcayg caacgaaaa catcayg caacgaaaa catcayg caacgaaaa catcayg caacgaaaa catcayg caacgaaaa catcayg caacgaaaa catcayg caacgaaaa catcaygaaaa catcaygaaa	MVELSGNASD THYYIVNLAV SIDRYIGVSY EPGYVLFSAL APAGGSGMAS FKPSETVFKI HPPSQAVEGQ	TARVRSKSFL gcgctcggcg agagctgatc
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	Alpha 1c- } adrenoceptor	Alpha 2a-
	379	387

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	Homo sapiens	Homo sapiens
tgg ctaattcccc ttccattccc age cetgectgcc etcecatcc ggg gccccatat etcttggcct cct gtgttatgaa gtccctetat gac acggacctgc tttgagattt tgc ctaacagcat aattgccttt gta aatgagcctt tetgcctcac etg tttgcccag taactcactt ggg ccactgcttg aagaagaata gcc ccgaaagtgc tgactatggg gga aattatgtgg aagaagcaa aatagtggcctg ccaactgta tgt ccttcccc ctcgtgctt tcg ccttccccc ctcgtgctt tca ggggagggcgg ccaactgta tca ggggaggggg ctagagactt tca ggggaggggg tttttttta aataacagtga tttttttta aa tgacaatgga ttttttttta aa tgacaatggc taa tatttttta aa tgacaatgga ttttttttta aa tgacaatggc caaactctt	GLIMLITVEG FGKTWCEIYL SAVISEPPLI QIAKRRTRVP APAGPRDTDA GSGRRLQGRG CSVPRTLFKF	tca tectggetgt gttgaecaec A tectggetgt gttgaecage age tectggetgt gttgaecaec gae tectggetgt gttgaecaec tge tettetgeac ctegteatect tge tettetgaec etegteatect tec teactgtgtg geteategec tec teactgtgtg geteategec acc agggeececa geogegegg tec tggeetecag accggaetet tge geatetaect gategaatet tge geatetaect gategaatet etg ggeagggtga gtecaageag aac tgcaageact gaecageagggaact ggaaggaaggaggagggaaggtgaggaaggaaggaagg
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	Alpha 2a- AAA51664. adrenoceptor	Alpha 2b- NM_000682 adrenoceptor
	387	388

	Ното
gggcc aaggt ttttt ggaac ctca ggatt cctg gggtt cctg cctg	ADIL P
t gtctccggcc c aaccctagt t tggcgttttt c ccgaagcac c aacagctca t ccggaggatc t tgggagggtt t tgggagggtt t tgggagggtt c ttagctctca a acccctaggg t cactggcatt g agcagcctc g gatgcctcc g gatgcctcc t gatcaccca t gatagcctc g gatgcctcc g gatgcctcc t gatagcctc g gatggcatt a aaaatgtgat t cactggcatt a gccaggaaca t cactggcatt g gaggcaatt g gaggcaatt g gaggcaatt t tcctgtagac c gatgcccc g gaggcaatg t tcctgtagac g gaggcaaatt g gaggcaaatt g gaggcaaatt g gaggcaaatt g gaggcaaatt g gaggcaaatt g gaggcaaatt g gaggcaaatt g caccttggag t tcctttggag t tccaccccaa t tcccttggag t tgtgaaccac g ttgttagaacac g tgtgaaccac g ttgtgaaccac g tgtgaaccac g tgtgaaccac g tgtgaaccac g ttgtgaaccac g ttgttagaagaa g ttgtgaagaaga	F LVSLAAADIL
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sapiens	Homo sapiens
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RRTWCEVYLA AVI SLPPLIY RSNRRGPRAK TPEDTGTRAL SACSPPLQQP VLCWFPFFFS	ggecoccteg gggeaggtcc agegaggtcg agegaggactc agegaggactc eggaggactc cggaggacgc ccgatgcgacg cggaggacgc cggcaggacg cggcagctg cgatgcgacg ggtgcgacg ggtgcgacg ggtgcgacg ggtgcgacg ggtgcgacg ggtgcgacg aacgacg caccatcgtc ccaccatcgtc
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	NM 000683
adrenoceptor	Alpha 2c- adrenoceptor
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·	sapiens	sapiens
	OH B	on as
ctacagcctg cttcttctgg ccaggatttc gcagtgactc gggcggcccg ggatggattg atagccgggc agcaaggggc agcaagggc ccaggacct ttactgaaag	VAGLAAVVGF P NELMAYWYFG TIVAVWLISA ARIYRVAKRR RFRGGAPGPL SVEFFLSRRR CQVPGPLFKF	gagccagctc A gctgcacaga ccttttgtc cctggccaac gaatatctgg ggtcatcaag ctaccgcgtg ggtcacctgc gcgatccatc tgaggcctgg ggctgcgatc cagcaggaca cgtggttgccatc attccaggtg attgccaata cagcattgaa cagcattgaa
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	Alpha 2c- adrenoceptor	Bradykinin Bl Receptor
	6 8 8	
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Homo sapiens	Homo sapiens
QNATACDNAP EAWDLLHRVL PTFIISICFF GLLGNLFVLL P ASDLVFVLGL PFWAENIWNQ FNWPFGALLC RVINGVIKAN HPMASGRQGR RRQARVTCVL IWVVGGLLSI PTFLLRSIQA ARIVELNILG FLLPLAAIVF FNYHILASLR TREEVSRTRV VCWAPYHFFA FLEFLFQVQA GNGCFFEDFI DLGLQLANFF	ctgtctgttc gtgaggactc cqtgcccacc A gtcaccttgc agggcccac tcttaacggg gagtggtggg gaaccttgg aggaccact tgtcctcagg gagaccatct tgtcctcagg gcacccttgg agaaccttgg agaacctggc gtgagcagaa tctacacatt tgtcctcagg gcacccttgg gaacctggc cccttctggg ccatcactt tgtcctcaga cgcatcactt tgtcctagaac gtgagcatcg acgctactt tccatgaacggg gtgagcatcg acgctactt tccatgaaggag ttgtgctgg tgttccggac catgaaggag tgtgccatc gatgcctggg gaacctggg gaacctggg tgttccggac catgaaggag tgtgtcatca gctacccatc gatgtgcatca catgaaggag tgtgtcatca gctacccatc gatgtgcatca catgaaggag tgtgtcatca gctacccatc gatgtgcatca gatgtcatca gatgtcatca gctacccatc gatgtgcatca gatgtcatca gatgtaatca acacaagaag gtcagaacca cacaagaag ggtcagaa ggccagaac gatgtctcagg gataaaacac ggagaactaat gggctgtgag acgccagaacca cctacactga ggagaactaat gggttctttat ttgctgccaga acgccagaga acgccagaga tccaagaacact tagatctcca ggagaactaa acagaacaact tagatctcca gagagaactca acagaacaact tagatctcca gagagaactca acagaacaact tagatctcca acgaagaacca cattgagc acttgctgta atgcaagga tccaaccaaa acgccaagga acgccaagga cattgagcca acttgctgta atagcagtat ataaaggtta ataaaggacca acttgctgta acagcaaaga cattgagc acttgctgta acagcaaaga cattgagca acttgctgta acagcaaaga cattgagca acttgctgta acagcaaaga catatgagc acttgctgta acagcaaaga catatgagc acttacttagt acaaagaacaaga acttgctgta acaacacaaa aggaacaaca acaacaaga aggccaaagaa acttgctgta acaaagaacaa acttgatcaa acaaaagaaa accaacaaga aagctgttcaga aagaaagaaa acttaaagaa acttaatgag accaacaaga aggaacaaaa acaacaaagaa acttaaagaaa accaacaaaga accaacaaaga accaacaaaga accaacaaaga accaacaaaga accaacaaga aagcaattaata aaaaagaaaaaa accaacaaagaa accaacaaaga accaacaaaaaagaa accaacaaagaa accaacaaagaa accaacaaagaa accaacaaagaa accaacaaagaa accaacaaaga aagaacaaaaaaaa
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Bradykinin Bl Receptor	Bradykinin B2 Receptor
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46	7 4 7

	Homo sapiens	Homo sapiens
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gtttactata tgggagccgg ccttccacct ggagagagat tcggtcttgc gggggagagt tgtcaatcaa aatggcaatg atatttatta ctggagggc acctggagggc acctggagggc acctggagggc acctggagggc acctggagggc acctggaggg acctggaggg acctggaggg acctggaggg acctggaggg acctggcag gaaacctggc agaacctggc agaacctggc agaacctggc agaacctggc agaacctggc agaacctggc agaacctggc agaacctggc agaacctggc agaaaagcgt ccactctcct accatttag aaaaaaaag ggtctgagac ggtctgagac ggtctgagac ggtctgagac	TFAQSKCPQV AADLILACGL KTMSMGRMRG EVFTNMLLNV ICWLPFQIST KKSWEVYQGV	ggcccagccc gctcgtcctg gcgcgccacc cgccagcgaa ggcgctcatc
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cgcagacgta ccgtagagca cacacacac gcagaggaag caccagccag agcaaccaag cctagaagag ctattcact agaacctgg tagaacctg tagaacctg tagaacctg ctggaacctg gctagaacct agcagaac agcagaac agcaacatct ccactctttt caggtgaaag tcaacactct ccactctttt caggtgaaag tcaacactg tcagcacaga tcagcacaga cacacatgt tcagcacag cacacatgt tcagcaccag cacacatgt tcagcaccag cacacatgt tcagcaccag cacacatgt tcagcaccag cacacatgt tcagcaccag cacacatgt	TAS FSADMLN VFCLHKSSCT LYSSICFLML YSDEGHNVTA EIQTERRATV AXSNSCLNPL	nhhybwash ctggggtgtt ctcggcatgg gccgcatcgt cccgcttcgt gcgggcatgg
agacatcatta agaaatagct gtctggcaca ttgtgatgatgag gaccccccac ttcctgtctc cagtatgagc ccagggcagca ctggagagct ccaagaaggg gctggaggac tctggaggac acctggagga acctggagga acctggagga acctggagga acctggagga acctggagga acctggagga acctggagga acctggagga acctggagga acctggagga acctggagga acctggagga acctggaga acctggaga acctggaga acctggaga acctgaaca agaacatgga agaacatgga acctgaaca agaacatgga agaacatgga acctgaaca agaacatgga agaacatgga acctgaaca agaacatgga acctgaaca agaacatgga agaacatgga acctgaaca agaacatgga agaacatgga agaacatgga agaacatgga acccccaac aggaagaaaa caaactgtgc agaacatgga acccccaac agaacatgga acccccaac aggaagaaaa caaactgtgc agaacatgga acccccaac agaacatgga acccccaac aggaagaaaa caaactgtgc agaacatgga acccccaac agaacatgga accccccaac agaacatgga accccccaac agaacatgga acccccaac agaacatgga acccccaac accccaacatgga accccccaac accccaacatgga accccccaac acccccaac acccccaac acccccaac acccccaac accccaac acccccaac acccccaac accccaac accccaac acccccaac acccccaac acccccaac accccaacac accccaac accccaac accccaac accccaac accccaac acccccaac acccccaac accccaac acccccaac accccaac acccccaac acccccaac accccaac accccaac accccaac accccaac accccaac acccaac acccaac acccaac acccaac acccaac acccaac acccaac acccaac acccaac acccaac acccaac acccaac acccaac acccaac acccaac acccaac acccaac acccaac accac accac accac acca	aaa LSVREDSVPT ATLENIFVLS RVVNAIISMN PMLVFRTMKE LRNNEMQKFK DVITGIASFM	nisisvenci gcccgggctt gccccgcag cctgtcgtcg cgcgtcgccg gcagtggaca caatgtgctg
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	NP_000614.1	NM_000684
	Bradykinin B2 Receptor	Beta-1 adrenoceptor
	009	635
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	Homo sapiens	Homo sapiens
ttettetgeg ctgtgtgtea ctgtgtgtea gtgteettee tgctaacaacg tccgtagtet ccccgcgcc ccccgcgcc ccccgcgcc cggcggcct atcatggcg ttccaccg aactcggcct gaactgcct gaactgcct gaactgcct gacgactgc gacgacgcct gacgacgcct gacgacgcct gacgacgcct gacgacgcct gacgacgcct gacgacgcct accggctcct accggctcct accggctcct accggctcct accggctcct accggctcct accggctcct accggctcct accggctcct accggctcct accggctcct accggctcct accggctcct accggctcct accggctcct accggctcct accggctcct accggcttcct accggcttcca	EPLSQWTAG P VVPFGATIVV TRARARGIVC VSFYVPLCIM RPAAAATAP RELVPDRLFV ASGCLARPGP	
	ttg SLLPPASESP ASADLVMGLL TSPERYQSLL NRAYALASSV PAPAPPEGPP FLANVVKAFH RHATHGDRPK SSLDEPCRPG	
gegecgacct geegetggga tgaeggecag tgtgggecat agaegegae agaegegege egecegege egeceaegt tgaeaeggeg tggecaaegt tcaaetggeg actteega actteega actteega actteega actteega acgegacca actegecag acgegecea acgegacca acgeacca acgegacca acgeacca acca	ALGETCCTTG RILVPASPPA TLTNLFIMSL VIALDRYLAI NDPKCCDFVT RPPSPSPSPSP GVFTLCWLPF LCCARRAARR CNGGAAADSD	
tccctggcca gtgtgtgggg gtgtgcacca gccatcacca tggcgggcgg gtcaccaacca atcatggcct gccagccccg gcccgcctgg gcccggcccg	tggcttgctg PLPDGAATA VAIAKTPKLQ CVTASIETLC AESDEARRCY CERRFLGGPA KALKTLGIIM KALKTLGIIM PDFRKAFGGL	gagcacgggc aggacgattc cgcggcccgc acctgccaga caatagaagc gggcatgggc catcacagcc actggcctgt tcttatgaaa
	gatgggagag SEEGNLSSAA LIVAGNVLVI CELWTSVDVL FLPILMHWWR AQKQVKKIDS PSRLVALREQ AENPILYCRS AENPILYCRS	ggettettea ctgagtgtge ggegteeget cagtgegett tgetggeace tgtgggtggt atgtgetggt tcatcactte ccgcccatat ccgcccatat
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	NP_000675.1	NM_000024
	Beta-1 adrenoceptor	Beta-2 adrenoceptor
	635	640
·	20	51

Ното	sapiens	sapiens
Δ.	A	
gctgaccaag ctccttcttg ctatgccaa catcgtgtcc ggaggccaaa ccttagacag ctgcttgaag ctgcttggctg tatctactgc ggaagaattt ggaatgattt ggaatgattt ggaatgattt taagctgtagt tccccccaaa ttcctctttg ttcctctttg ttcctctttg ttaagctgta ttcctcttt agtctgctat aatatattgc tgaggaattt ttatttgct cgagcaaagg	SIDVLCVTAS MHWYRATHQE QKIDKSEGRF IVNIVHVIQD GNGYSSNGNT SLL	atgoottgot coccaecgo gooccatgo googttocgt accaacgtgt cogcogogg ctgtggacct
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cctttcaagt tggattgtgt caccaggaag gcctatgcca ggccgcttcc ctccgcagat atcatgggca atcagggta attctggtt gagcttctgt gagcttctgt tgtaatact ttgtatttg ctttagtcct actattcaaa ggactcttcca actattcaaa ggactcttcca actattccaa actattccaa actattccaa actattccaa actattccaa actattccaa actattccaa actattccaa actattccaa actattccaa accatg	AAHILMKWWT RVIILMWWIV PLVIMVEVYS ALKTIGIIMG DFRIAFQELL QGTVPSDNID	aggottgggga aggottgggga ctcacgagaa ccaacaccag ctccgagact tgatgggact tgatgggact tcgaaacccac
	VMGLAVVPFG YQSLLTKNKA IASSIVSFYV SSKFCLKEHK FNPLIYCRSP LPGTEDFVGH	aggatage tagattage getecttagge geceatace gecetetgg gecgaeetgg gecgaeetgg accatgge accatgge accatgge accaetgge
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	ELGRFPPEES	PPAPSRSLAP	APVGTCAPPE	GVPACGRRPA	RLLPLREHRA		
	FTLCWLPFFL	ANVLRALGGP	SLVPGPAFLA	LNWLGYANSA	FNPLIYCRSP	DFRSAFRRLL	

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Homo sapiens	sapiens
Homo sapi	Homo sapi
agaattgcca cacttcattt tttgctctct tgcaaggcgg atgggaacgg actgggtgta ttctcctcc XITYAVIISV P EGWLFGRIGC VWIVSMIFAL SIISVYXFII	gtgaccagtc A ggacctcgag cacctccctg caaggccgtg cctgttccac cgagggctct caaagtcaac ggccattgtc tgtgggacc agtcagccaa agtcagccaa agtcagccaa agtcagccaa agtcagccca cctgtggacct cctgtggacct cctctgctgg cctctgctgg cctctgctgg cctctgctgg cctctgctgg cctctgctgg cctctgctg cctctgctgg cctctgctgg cctctgctgg cctctgctgg cctctgctgg cctctgctg cctctgctgg cctctgctgg cctctgctgg cctctgctgg cctctgctgg cctctgctgg cctctgctgc cctctgctgg cctctccca ccaccacgttc atgctggacg cccaccgctc ccaccacgttc atgctggacg cccacgctcc ccaccacgttc atgctggacg
atcccgaaag gttgccaaat cttgccatg cgtaaaccc gttgttctgt cttggctgtg gacctcgttc aaaatgctgc sPGIEALCAI VPVDATHYLA ILKTCVKAGC CFLVFYIIPL ALCWLPNHLL FKAQLFCCKA	acataagaca cyctggaaat actataacga tggcctcctt tgatcggcaa cggagacct ttgccctgca accatcac tcttcgccaa acatcac tcttcgccaa acatctct gccaggcca gccaggcca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gccaggcca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gccaggccca gcaggccaggc tgtggaagtt gcgcaggcc tgtggaagtt gcaggcagatt gcaggcaggcagtt gcaggcagtt gcaggcagtt gcaggcagtt gcaggcagtt gcaggcagtt gcagagcagtt gcagagcagtcagagcagtt gcagagcagtcagagcagtt gcagagcagcagcagcagcagcagcagcagcagcagcagc
agcagattga ccctctgctg atgtagaccc gcaattcttg ttaaagctca acttaccac acattagtgt ttttcaagga agg atg KLLCaagga ATULLLIC KPLERQPSNA KLLQEIHSLL RTVLVIVALF YWLSKSFQKH SVKOAEDRF	
catgcccgta gctctgtttg ttgctttca cagaagcatt cagatgtctg agattctagc agctgtgtgt ESSSSVSND VFNIFITSLA LSADRYKAVV ESCTSYPVSK KQIESRKRIA SNSCVNPFAL	acctggcgg agcactgaac ggaactggac cctcatcttc ccggcagaca gctggtcttc cttcctctgc ccacgccgc ccttgccttg
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tacctactga gaacggtatt actctacca tcaccatttt actggctgag accgggcctga tcccgggcac ttccgggcac gtgtgaagca agcgtgtgta ACLSFIRLTS PEAIFSNVYT ARTLYKSTLN XVDPSAMHFI SLTTLANGGT	getgecacct tggtgacaca aacctggagg gtggaaaatc ttcgtgcccg ctggtgatcc ctggccgtgg gtgggctggg atctgctgga atctggctgg atctgctgg atcgcctgca atctgcatca atctgcatcaca atcttcaca atcttcacag ttaggtcccag ttaggtcccag ttaggtcccag ttaggtcccag atcttccaa atcttccaa
NP_001718.1	NM_001716
Bombesin Receptor Subtype-3	CXC Chemokine Receptor 5
692	
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	Homo sapiens	Homo sapiens
cccttgccaa cggagagcgc tgacctccac agcttccct gcaccagggg atgagtggag cttcggacaa ctcagtcct atcttgacca agcaggaagc cgaaacagcg ctgggtccac actctaggtg cccttggagg gatcaatcaa acccggcggt agggtggctg ggtccagggg gtccctct cactccttc agaaaggtgg actggaagg ccttaggcag ggaagtgtaa ccgtgccctg ccccgtgag tgttgctca ctgggggg tgttgctca ctgggggg tcttacaggc cagccaagct cttgggagg tcttcacggc cagccaagct cttgggagg tcttcacggc aggacaacga cgcaagctt tgatcagtg tcttcacggc aggacaacga cgcaagctt ttattaata acagaacaaaaaaaaaaaaaaaaaaaaaaa	TEGPLMASFK AVEVPVAYSL P VFILPFAVAE GSVGWVLGTF RRLLSIHITC GTIWLVGFLL LYHVAGFLLP MLVMGWCYVG LDTLARLKAV DNTCKLNGSL GCTGPASLCQ LFPSWRRSSL	ttggaaccag agagaagccg A cacagagttt gactatgggg ggcccaactg ctgccccctc cctggtggtc ctggtccttg cctgaacctg gccatttctg caagttgaag gatgactggg ttacacaggc ttgtacagcg ggccatcgtc cacgccgtgt cagcatcatc atttgggccc gacccaatgg gaattcactc
tctacttctg taggggctgc cagaagctga agagtgtggc gcctgcagtc tggctctgac ggaggaagca gaggaagca gaggaactct aggctggctt gtcggaacgg cgtggcatca cccaggaag gctccgtgct tcaagccaag agtatctct tcaagccaag agtatctct tcaagccaag agtatctct taagccaag	SLVENHLCPA FHLAVADLLL IVHAVHAYRH ETHAWFTSRF CWSPYHIVIF SDLSRLLTKL	acaaagtccc atgacacgac gggcctttgg ttgggaacat gcatctacct ggatcgacta ctgggtttta acaggtacct acaggtacct acaggtacct acaggtacct
ccaatgctca agaaacaact cagaacacac tccatcagct aggaaaggcc agetggcagg acattctgcc agetggcagg acattctgcc agetggcagg tggatcctgg ttgtttgca acctgaggaa gcytgaaggc tttcttccc gaaccccaag aggcgagatg gggtggggtg gtgggcattg atggggaagg tagacccgag gaaactcaga gtcatctcaa ccatccctc gaggcaggga agtccccagg agatggaacc gcagggaagct tccggcagtt ctgggtgctc gaaccctgcc cttgtcccaa gaacataacag cttgtcccaa agacgtcct ttttctctg aagcatcct ttttctctg aagcagtc aaagaggca tataaaacag gtcaatacaag	LENLEDLEWE LDRLDNYNDT LVLVILERHR QTRSSTETFL VNFYCSSLLL ACIAVDRYLA SQGHHNNSLP RCTFSQENQA RPQRQKAVRV AILVTSIFFL GLAHCCLNPM LYTFAGVKFR	cagaaacaaa gacttcacgg tccaaacacc acagaggact gtgccagaag gtgaacgaga ggtatttgtc attggcctgg gaggctaaaa acatgacct cctgttcacg ettccttct catcatcctg etgacgattg ggcacggacc gtcacttttg ggcttccatg ctacctttc catcatccta ctaccttct catcatccta ctaccttct catcatccta ctacctct catcatccta ctaccttctc
coctoc coctoc aggortg accagtg tecago tecago tecaco gagott teacto gagoco gacota gacota accago actago actago actago actago actago actago actago actago acacat	aaaa .1 MNYPLTLEMD I IFLLGVIGNV I LCKTVIALHK V ALPEILFAKV S VVHRLRQAQR I PVAITMCEFL G	SESENAISEI ggcacgagcc ggatggaaac atgcaactcc tgtactcctt tgcactcttt ttttggtga agatcttttt ttgccttgcg tggccatctt
	NP_001707	NM_001295
	CXC Chemokine Receptor 5	C-C Chemokine Receptor 1
	729	735
	09	61

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		sat ttgactatac	agc agacatttgg	gtc aacccagtga	-	ctg gagagggtca		gcc agcagcctgg	act tgggatagag	gtc ttttccatga	cag agactgggac			_			-	tac tgctggcagt	-			cga ttaatáacag		-	-	_		-	•	LSAGE	-	-				-			ttc ctgaatttat	ttt acccagagga
	gaaatccaaa	cccctacaat	•		gcagttgttc	ggacaggctg		acactgagcc	cacagccact	ggcttcagtc	aatattccag	agatttgtga	aaccaattaa	-	•	-	aatcctgggg	ggggaactac	-		tttttcagaa	attgcagcga	. catctaagcc		•		•			STSPSTGEHE						-				agtgctcttt
tgcctttgtt	caaatgagaa	tcttttggac	cccatgagtg	cctacacgca	agtacctgcg	tcctctccgt	aactctctgc	cctgccaggc	agcatggagt	aggcttctgg	agcaaaacca	gcaagatttc	tgcttgcaca	cctaagccat	cccdccaccc	gagtcccaga	gggctcttgg	aatagaaatg	tatatccact	tggtgtgctt	tttctgacta	taatggcttt	ttttgttctt	cttgtcagca	AFGAQLLPPL	IDYKLKDDWV	VITSIIIWAL	PLLVMIICYT	HECEOSRHLD	LSVDRLERVS	aatgacaacc	gggcctgctc	gractecetg	aaaatacagg	cctgctcttc	ttttggccat	gatctttttc	tgcccttcga	ggcagtgcta	gactctttgc
gggctggtat	ctaagacgac	atctttttc	ttcctgttca	gaggtgatcg	aggttccgga	tggctcccct	gggagcatg	gcaggcgtga	ctcttggcac	ggggcttctg	aagatgaatg	ttggactcaa	ttcccactat	aaagtgagct	cctcccccc	actccactct	cgcaggattt	cctaacgaga	gaagaattt	atgaataaca	ttacccttct	tggtagattc	tttcccttct	ccatcttgga	ATPCQKVNER	LLFLFTLPFW	ALRARTVTFG	LKLNLFGLVL	ISVEQDFLFT	AVHLVKWLPF	ggagaagtga	atgatgacgt	tgccccgct	tgatcctcat	ccatttcgga	ataactgggt	tgtacagcga	atgctgtgtt	cctggggcct	tgtttgaaga
		catcatgatc	tttccaagac	gcaagtgacg	cgttggtgag	cctggttaaa	tccctccaca	cccaaaataa	caggttctga	atggtggcct	tggtagaaag	agagaaggc	agtcaccac	ggctccattc	tcttccatca	ttccacagtg	tcactcccac	agagttgaga	aagcccttag	cacgggccat	tcatttccat	ggtgatatgt	gcagggttgg	gttccgactg	DITTEFDYGD	IYLLNLAISD	RYLAIVHAVF	SLREWKLFOA	FWTPYNLTIL	YLRQLFHRRV	tctatcacag	acatcctact	gcccagtttg	gtggtggtga	ctcaacctgg	gtcagggggc	cacacaggct	gccattgtcc	agcatcgtca	actgaagagt
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	s c	ž.
	Homo sapiens	Homo sapien
accatcttct gtctcgttct aaaacgctgc tgaggtgccc atcatggcgg tgttttcat tatcaatcca tcttatttgg ctggtgacag aggtgatcgc ctggggagag aggtccggaa ctgggcagat acatcccatt ccatccacag cagagccgga aaaagaggaag gaccaaggag	YSLVFTVGLL GNVVVVMILI P FGHGMCKLLS GFYHTGLYSE AVLAALPEFI FYETEELFEE GIIKTLLRCP SKKKYKAIRL LVMLVTEVIA YSHCCMNPVI SVSPSTAEPE LSIVF	ttettteett ecteceteee A caacattgae aagteeatte gaggageetg tagagttaaa aageattaet eateaagga tttggggage tetgettgga aattetgggg gactgatgg tacetgetea ttetggggg tacetggtgg tetetggggg tetetggggg tetgggggagg teggggaagg teggggaagg tegggteate acagtteag acttgttata ececttaggg ateatgetgg ateatggeag ateatggeag ateatggeag ateatggeag tetggttea ecttgtea agaacaaca tttgttee aggaete acttgeete agteetee geteetee agteetee agteetee agteetee attteetee attteetee tetteeaagg gaaggettae teagagaete eatgatgete teagagetta agteetee attteetee tetteeaaa attteetee tetteeaaa teagagettae teagagettae teagagettae tetteeaaa attteetee tetteeaaa tetteetee tetteeaaa attteetee agteetee tetteeaaa teagagettae tetteeaaa gegeteae attteetee eatgagaeaa ettteetee eatgagaeaa
tctgagaatg aggaatcatc catttttgtc tctctcttcc cctggtcatg cttcgccttt gctcatgcac ctctgtctct aaaattgcct cacctctaa	ALMAQEVPPL IHYVRGHNWV VITSIVTWGL PLLVMAICYT NDCERSKHLD LPSEKLERTS	cttccccttc tctccacatt gacctgcctt ccctcgatga ccaaagaagg ttgtatttgg tcaggtccat tttcctccc gcaagatgat tcatgagcat tcatgactta ttcctggctt agtactctct gattggtgat tcttccttgg tagaagtcct aaacttcgga aatttcgcaa aatactgtgg ccaccatgga ccaccatgga ccaccatgga ccaccatgga gcaaggagca aattcgcaa aatactgga gcaaggagc ccctgaagca ccctgaagca gcaacatgga gcaacatgga gcaccatgga ccaccatgga gcaacgagca gcaacgagca aattcgcaa aatactgga gcaacatga ccccacatgga ccaccatgga gcaacgagca gcaacgagca gcaacgagca gcaacgagca gcaacgagca gcaacgagca gcaacgagca gcaacgagca
atttccacac a tctgctacac g ccatccggct g tggctatcct a agcatctgga a acccggtgat c acaggcactt g aaagaaccag g tcagatgcag	V GLLCEKADTR D LLFLVTLPFW F ALRARTVTFG T LRMTIFCLVL L LSSYQSILFG L LMHLGRYIPF	c cccttctttt t tctccctcag g gttgggccca a gcagatacca c aagccttgca t tccttggttt g tacaagcggc g ctttgtcatgc g ttggtcatgc g ttggcaagga g ttggtcatgc c tgcaaaacca c tgcaaaacca c aacattctcg c agggcgagag t tggtcgtgcc c ctggtggag t tgaaatgcag t tacacgcagt t gaaatgcag a ggtaaagagat c ttctcatcct
c gttatggaggc a aagtacaagg a ccctacaatg t gagcggagca c tgctgcatga c cacttcttcc t gagaagctgg t gtgttttagg	T EGTTSYYDDV N IYLLNLAISD D RYLAIVHAVF D TVYSWRHFHT I EWTPYNVAIL K YLRHFFHRHL	
tacagtatat ccctctgctc cagtaaaaaa tttctggaca aaatgactgt ctactcccac gtactcctagt acttcctagt acttcctatt atgaagcaaa	1 MTTSLDTVET KYRRLRIMTN IFFIILLTID TLCSALYPED IFVIMAVFFI	cgggggtttt tctctcattt agaaaagcaa aaatgaaccc atctgtatga tcttcctggt accttgccat cagaccagtg gcttttacag tgcacaccagtg tcacacaggt ctgagcgcaa ttctcagctc ttttgctactc ttttgctactc ttttgctactc tggtggaagat tagtgctcttt gatacttgga atcccatcag atcccatcag acccaccc tgtaggaaaa tgtaggaaaa tgtaggaaaa atcccatcat aaacctgca ctgacaccc tgtaggaaaa tgtaggaaaa atcccatcat aaacctgca ctgacaccc tgtaggaaaa
	NP_001828.	NM_005508
	C-C Chemokine Receptor 3	C-C Chemokine Receptor 4
	737	738
	4	65

Homo sapiens	Homo sapiens
Ωι	٠.
a ggcttgcctg it gtaggtaata sa gagggaattg gg gccccg FVEGLIGNSVV LC KMISWMYLVG SL PGFLFSTCYT LQ HCKNEKKNKA FE TLAFVHCCLN	ccttccagag cctttcatt caacaccaca ctttaaagcc caatgggctg ctacagcgcg ctacagcgcg ctacagtgac gctgggcatc cagctgtggg cctgctgggg cctgctggggggggg cctgctgggggggg
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aggcatcctt agcagtgctt tgaactgatg ccttttgctg KEGIKAFGEL SLPFWGYYAA LTYGVITSLA LVIPLGIMLF EVLQDCTFER	agcetteetg agcgtgetgg acggaegatt tecaagaagg tettegtgg etcaagaeca etgaecette gecegegtee tetteeatee gecetgetee accetgetee gecatggtet gaggeege aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga ectetecaa aggageaga
acctgggctg gagaactctg ccttctaacc taaatcgcta LYESIPKPCT LAISDLLFVF HAVFSLRART LSSLEINILG VLFLETLVEL	ggccgggcac accaatgaaa agatgaggtc ctccatcatt tttcaagagg cctcttcctc tgtccactt ccgccaccgt agcaacagt ggccaacagt ggccaacagt ggccaacgt gaaggcggt catcgcctca catcgcctca gaaggcggt actagaggg actagaggg actagaggg actagaggga actagaggga actagaggga actagaggga actagaggga actagaggga actagaggga actagaggga actagaggga actagaggga actagaggga actagaggga actagaggga actagaggga actagaggga actagaggga actagaggga actagaggga actagaggga gaaggtgaata ccaaaaaactg gagggtgaata ccaaaaaactg gagggtgaata accaaaaactg gagggtgaata acaaaaactg
gcaagggttc tcagtctgat acgatgat gctgatggag LDESIYSNYY RSWTDVYLLN MSIDRYLAIV YSLNSTTWKV FLGFWTPYNI	acctagageaa acctagageaa ctatcatgta ctatcatgta ctatcatgta cgacagacat ggggtcttcgg gtggcatgct tctcagctca ccatccaggt gtgacatgga ccatccaggt gtgacctcgg tcaggacctcgg accttctc tctgcctgg agaaaaagaca agaaaaagaca agtgcccaaa agtgccaaa agtgcccaaa agtgcccaaa agtgcccaaa agtgcccaaa agtgcccaaa agtgcccaaa agtgcccaaa agtgcccaaa agtgcccaaa agtgcccaaa agtgcccaaa agtgcccaaa agtgcccaaa agtgcccaaa agtgccaaa agtgcccaaa agtgcccaaa agtgcccaaa agtgcccaaa agtgcccaaa agtgccaaa agtgcccaaa agtgccaaac ctcccaaaa aggggccaaac ctgccctaaa
gtccagcctg caggcatgag ttgcaaggca cagagtactg MNPTDIADTT VLVLFYKRL FYSGIFFVML ERNHTYCKTK VKMIFAVVVL	agegraagg ttccaggtat gtggactaca tggttcctcc gtcgtgttga aacctggcgg gccaagtcct agcttcttca gtccaggctg tgtgtgggca tgtgtgggca tgtgggca atgagcttct aacaatgggg gagctcagta aacaatggcg aaccaatgcc aagagctatt gagctcagta aagagctatt tgctggagtg ctccctcag accaatgcc agaggctatt gctggagtga ctctgaatga ccaggcctatt gctggagtat accaatgcc agaggctatt gctggagtat ctctgaatga ccaggcctatt gctggagtat accaatgc accaagactatt
NP_005499.1	NM_001838
C-C Chemokine Receptor 4	C-C Chemokine Receptor 7
738	741
99	

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				Ношо	sapiens						Ношо	sapiens								Ношо	sapiens						Ношо	sapiens											
gg gatgacatgc tc aggggcgggg					LT LPFWAYSAAK	•	VI GFLVPLLAMS	AN FNITSSTCEL	QE QLRQWSSCRH		GG GCATGGCACA A	CA ACAACTAGAA	TG CAACTATGTT	AA GTGAGAAAA	TC CGTCAGTAAG	GT TGTTCATCAA	GT GAAGACATTA	GG CTTCTTGAAG	AT	AG TTGTGCGTGC A	AG GTGGTGACTT	AC ATATCTAAAA	GA ATATTTAAC	GC TGAAATGATT	AC TGCAGAAAAA						_	_	ga ccagtgggtg	-	ca tgccgtgtat	gt atggctaacc	ga agatggtgtt	tt caccaacttc	tg ctacattaaa
ccagagtggg		-			L AVADILFLLT	•	F ITIQVAQMVI	N GVVLAQTVAN	L FKDLGCLSQE		C AGTGAACAGG	r ccrerrecca	CICTGGCCTG	C CCTATGTCAA	c ctrcagagic	S GETCTCCAGE	A TCCTAATAGT	r ACGTGATGGG	C GTCAGTTTAT	r GGAGACACAG	I GATGAGCAAG	S ACCTCCTTAC	G ATATCAAAGA	G GTAATATAGC	G ATGTTAATAC					g gcaagttgct			t atctgctgga	t acattggctt	g ctgttgtcca	t gcctggcagt		t ggaagatctt	t ttatgttctg
actctgggct gagaggacaa	cttgttcttt	cgttaagaga	ctttaaaag	DYIGDNTTVD	TMTDTYLLNL	SIDRYVAIVQ	SLITEHVEAF	VFIVFQLPYN	VKFRNDLFKL		TGTTAGCAGC	GATGCCATAT	CCAGCACAAC	GGAAGGAATC	AAAAATATAC	ATCGATGATG	TCAAAGGTGA	TGGTGAAAAT	AAGAAATCAC	CACAATGACT	CAGTGATGAT	ATGATATCTG	AAAGAAATAG	TTGACCAATG	GATGAAGATG		actcacatga	-	acagtgaccg	cagacaaatg	ctgggaaaca	gatgtatacc	cagacctact	ggcttttatt	aggtacctgg	-	ttttaccaag	actttgaagt	ttcaccatct
tcaaagccac gggatgggag	aggccacgag	gcttcgatt	gaaacaacag	VCLCQDEVTD	LTYIYFKRLK	FSGMLLLLCI	RSSSEQAMRC	AIKVIIAWV	<b>UNPELYAFIG</b>		TGGAATAGCA	TAGCATGAAG	TTCTGAATGT	GTGGTGACTT	TATATATGTA	AGTTTTAAC	CGGTTCTGAA	ACAGATTATA	AAAACAGAAC	ACACTTAGAA	TGTCTATGTT	GTGAAAAGAA	CAATAAGCTG	TATTCATTCA	TAATAGTGAT	GARAA	attgagctgc	cctccagaac	cagtgtgaca	ggaacttatt	attcagtctt	gagcatcaca	cttccccttt	agtggtgtct	gagtgtggac	caggatgggc	attgctagtg	caatcaacag	gttgatccca
ggccagctgc ctccgcgtga actcagctct tggctccact			agataaagtt ttcccttgag	MDLGKPMKSV LVVALLVIFQ	LPIMYSIICF VGLLGNGLVV		GIWILATVLS IPELLYSDLQ	FCYLVIIRTL LQARNFERNK	SKQLNIAYDV TYSLACVRCC	IRRSSMSVEA ETTTFSP	TTTAAATTTA AAAACTTTAT	GAAGGTTTCC AAAACAAGTT	CACGGTGACT AAAGACACAG	CAGTGATGAT GATAAACAAG	AAAATGATGT CTGACCTCCT	CTGGAAGAAG TGGATGTTGA	CCCATGGTGA AATAGCTGAA	ACATTGCAGA AAAAGTGCCT	GACTAGAGCA GTGTGTATTC	reccadatar ecrettecca	CTGGCACAAC CTCCAGCCTG	TGAAGGATTT TGTATATCAA	CATATACCIT CAAAAICCAT	ATCATTAATG AGGCTCCAGT	CTGAATCAAG CTGATTATGA	GTGCCTATAA ATGACACAGT			atggattata cacttgacct	ttctcaagcc cctgtgatgc		-	gacctgcttt ttgtcttctc	tttgggactg taatgtgcaa	atgtttttca tcaccctcat	gccctaaagg tgaggacgat	gccattatgg ctaccatccc	ctacagtgtt attcatttta	aaaatgaaca ttttaggett
0.10	10	••		NP_001829.1 N	•		•		0.2		AI733823			•	7	•	•	7	•	TG6770				`		_	NM_005201		•										
				ပ <del>-</del> ပ	Chemokine	Receptor 7					ပ <del>-</del> ပ	Chemokine	Receptor 8							ပ <u>-</u> ပ	Chemokine	Receptor 8					ပ	ധ	Receptor 8										
				3 741							9 742									0 742							1 742												
				99							69	•								70							71												

	Homo sapiens	Homo sapiens
caggttggtg tctttcctc gctgacttat aagttgcagc gtcatcatca aagttgcagc aaggtgtggg ttgccaacac agcctgtgat gccaagtgaa tgtcagtagg gtctatgcat tatagtgaca ggcagatgcc gaggacccac gaggacccac tatagtgaca ttatagtgaca ttatagtgaca gtgaaaatat gaaattatct gacaatatct gacaacacac aactaacacac aactaacacac aactaacacac tatagtgacacac gaggacccac aactagatacacac aactaacacacacacacacacacacacacac	LGNSLVILVL P GFYYIGFYSS FYQVASEDGV HNKTKAIRLV THCCVNPVIY VDXIL	cagagcacca A gaggttgccg gactcgtgct ttcctgccag gcagccgtgc ctagctgtag gtccagtggg
ccaaggccat tcaacgtggt taagccaaca gtgtgaaga gtatttcgaaga ttttgtgagg gcagtgaga atatatgttg cacaacatca gattctgtat cttcagagac ggctccagtt tgattgtgat agatgacatg aacagaacaa ttgttgatga aacagaacaa ttgttgatga aacagaacaa ttgttgatga aacagaacaa ttgttgatga aacagaacaa atcttccctg aacaatatat tagtgcctag tttaagaacaa tttaagaacaa tttaagacaa aacagaacaa aacagaacaa aacagaacaa aacagaacaa aacagaacaa ttgttgatga aacagaacaa aacagaacaa aacagaacaa ttgttgatga aacagaacaa	FYCLLEVESL FGTVMCKVVS AIMATIPLLV ILHQLKRCQN ATHVTEIISE COOHSSRSSS	
cacaacaaga tgggtcccat ggatgtagca actcactgct ctctcagaaa cttagaactaca catgctagta gaaggatgcc gcatgcctgg aactttaaag aaaaatatac tcaatgatga tgaatcaagg aagtgcctgt acgcattcat acgcatcat acgcatcat acgcattcat acgcatcat acgcatcatca acgcatcatca acgcatcatca acgcatcatca acgcatcatca acgcatcatca acgcatcatcac acgcatcatcac acgcatcatcac accatcatcac acgcatcac acgcatcac acgcatcac accatcac accatcac accatcac accatcac accatcac accatcac accatcac accatcac accatcac accatcac accatcac accatcac accatcac accatcac accatcac accatcactcac	QTNGKLLLAV QTYYLLDQWV TTLCLAVWLT FTIFMECYWLT GCSISQQLTY GCSISQQLTY	
gtgtcaaaac catcttttc catctttgat cattcctt caagacaaca acataattga agttcagcat acatagttgt acatagttgt acatagttgt cttcatatgc agttttgaca agttttgaca ggagtgattc actgcataaa ctacagcagc agttttgaca agtttttgaca agtttttgaca agtttttgaca agtttttgaca agtttttgaca agtttttgaca agtttttgaca agtttttgaca agttttttgaca agttttttgaca agttttttcagta cttatcataag agtttttcagta	· .	
agctgaagag tcattgcatc acagtatgca tcacagaaat actacctagg actcctccg aaaaacatt ttccaaaaa atgactggag gatgatgttg gtctgacctc tggatatttga tgaaatggct tgctattaat tatggaagga aatcaaacag acctttaat tcaaactgt tcaactgtg accatttaat tcaaaacag accatttaat tcaaaacag accatttaat tcaaaacag accatttaat tcaaaacag accatttaat tcaaaacag ctcaaactgt atttggat tcaaactgt accatttaat tcaaaactca cactattaat tcaaaacacca accatttaat tcaaaacca accatttaat tcaaaacca cactattaat tcaaaacca cactattaat tcaaaacca cactattaat tcaaaacca cactattaat tcaaaacca cactattaat tcaaaacca cactattaat tcaaaacca cactattaat		
atcctgcacc ctcattgtgg acttccttgc gccacccatg gcattttcat tgccagcagca actaaatata tgtgaaagat ttaaaacaca tgtgttttatt aaaaaaagat ctggaagaag tgactgatga ttgacaggct cagctttataa ttgacaggct cagctttataa atgaagaag ttgacaggct cagctttataa tctgaaaaaa tctgaaaaaa tctgaaaaaa tctgaaaaaa tctaaaaaaa tctaaaaaaa tctaaaaaaa tcttataaa cctttataa tagtttttat aaaaaaaaa		ccaaccaa gcccaacca gccctctgga gtactccc cctttacag tgctgagccg cagacacgct tcttggctc
	NP_005192.1	NM_001504
	C-C Chemokine Receptor 8	CKC Chemokine Receptor 3
•	742	752
	72	73

		<b>Homo</b> sapiens	Homo sapiens
gaacatagtt catgocacco ctgoctggct gtctgggggc ggcccaccac gacgagcgcc ccgcacggct ctgcgggtgc ggcctactgc tatgcccaca gcgggccatg cggctggtgg tcacctggtg gtgctggtgg ccgagaaagc agggtagacg ctgcctcaac ccgctgctct gctgctcttg cgcctgggct	ccgccggat tcatcctggt gaatccgggc tcccctttcg ctctgccggc tctggctctc accaccaggt ctcccgggaa ttagctgcca agccccatcc ctttgggaaa ctaaaactc ggtgctgccc catgaagcca ccccaagacc tctatatttg caataaacaa gatcgtcagg	PPCPODESIN FDRAFLPALY P LIVLTLPLWA VDAAVQWVFG RRGPPARVTL TCLAVWGLCL VAGFLLPLLV MAYCYAHILA MDLGALARNC GRESRVDVAK QRGLQRQPSS SRRDSSWSET	agtatataca cttcagataa aaggaacct gtttccgtga tactccatca tcttcttaac tactccatca tcttcttaac taccagaaga aactgagaag ctcctctttg tcatcacgct gggaacttcc tatgcaaggc ctcatcctgg ccttcatcag cagaggccaa ggaagctgtt ctctgctga ctattcccga atcgftggacc ttatcctgcc atggttggacc ttatcctgcc aaggctgtcac attcccaaggg
accgctacct gaacatagtt tgaccctcac ctgcctggct tcttcctgtc ggcccaccac cacaggtggg ccgcacggct tgctggtcat ggcctactgc agcggcgcct gcgggccatg ggacccccta tcacctggtg gcaactgtgg ccgagaaagc acatgcactg ctgcctcaac	catcgtcttc tgtgaggccg tcctcccccc cagccccagc ttgctgctcc ctgcccttct tggcgtagag tggcgtagag	ENESDSCCTS FLLHLAVADT LNIVHATQLY GRTALRVLQL YHLVVLVDIL MLLLRLGCPN	tgacgccgag ggaggggatc tgactccatg gcccaccatc ggtcatgggt agtggccgac ctggtacttt cagcagtgtc caccaacat gatccctgcc tgacagatat tgacagatat tcagcacatc
atcagatttg coggaccaga ccagacttca tacaaacttcc ctgctgcccc tccaggggcc gcctctgct gctttggccc gtcttggccc	cagaggcagc tactcgggct cattccaggc gactcactgg gactgcacca tggagcccca gcagtgactg acaatcctgct	ENFSSSYDYG RRTALSSTDT LLACISFDRY THCQYNFPQV VVAFALCWTP VGVKFRERWW	ggtagcaaag cggttaccat caggggacta aaatcttcct tggtcatcct tgcacctgtc ccgtggcaaa tcaacctcta tcgtccacgc ttggcgtctg gtgaggcaga ttggcgtctg gtgaggcaga ttggcgtctg
gctggcctgc ccggggggccc tttcgccctc ccactgccaa ggctggcttt gctgctggtt ggtggccttt ggtggccttt ggtcacctca	gagagggete agaggeetec gaettececeg tegetecegg eagetetgag ggtggetgae agtgeggga etceagetea tteatgteta	LNDAEVAALL NGAVAAVLLS FNINFYAGAL SAHHDERLNA LRAMRLVVVV CCLNPLLYAF	tgoggcagca ggaaatgggct aatttcaata ggcaatggat aagtacaggc gcagttgatg atctacacag tacctggcca gtggtctatg gccaacgtca tgggtggtc tacctggcca
gagccctcct agctctaccg tctgcctgct tcaacgccac tgcagctggt tcctggccgt tggtggtcgt acatcctcat tggccaagtc	gccccaacca ctgagacctc cccacattcc gccaccctcc tgccgcccga atctcccca ctctttatt	MYLEYSDHQV SILFILGILG SGLCKVAGAL LFALPDFIFL VILVSRGQRR SVTSGLGYMH SEASYSGL	gtttgttggc caccgcatct ctacaccgag agaaaatgct tggcattgtg catgacggac tcccttctgg agtccatgtc tctggaccgc ggctgaaaag cttcatcttt caatgacttg tggtattgtc
		NP_001495.1	NM_003467
		CXC Chemokine Receptor 3	CXC Chemokine Receptor 4
		752	753
		4	25

Ното	sapiens	sapiens
유 ·	S S	S as
cgactccttc atcctcctgg aaatcatcaa caagtggatt tccatcaccg aggccctagc ctatgctttc cttggagcca aatttaaaac cacgagggtcc agcctcaaga tcctctccaa cactgagtc aggcttcaa gttttcactc tatacgataa ataactttt tttaagttac attgtacagt ttttattgct tgttggattt tttaattgac ttatttatat aaattttttt cctgtggcca agttcttagt tgctgtatgt aacattccag agcgtgtagt gaatcacgta atagaaagtgg cacttataac caaagcccaa tcaggaagtgg gttgatttca gcactacag agtacatttca aaacttactt tccaggagtgg gttgatttca gcactacag agtacattccattc	NWYFGNFLCK AVHVIYTVNL WIPALLLTIP DFIFANVSEA IIISKLSHSK GHQKRKALKT HKWISITEAL AFFHCCLNPI STESESSSFH SS	
ggatcagcat acccatct cctctgtgag catctgtttc gacttttttt actgaccaat ttttgtgaag ctaggcagga aagggaactg ctgtttatgc gattttgctg ttttcagttt ttttcagttt ttttcagttt	SVADLLFVIT ATNSQRPRKL FQHIMVGLIL IDSFILLEII SRGSSLKILS	gaccaattca ggtcattctc gggctggcctg ggacctcctc tgccagtgtc aatctggtgt ggtggtggct caaccataat ttatggagat gaatgatagg tgtttccaa taggttaaca taggttaaca taggttaaca taggttaaca taggttaaca taggttaaca tacagtgccaa tgctttctcc gcctctctc gcctctctc gcctctctcaa tcaagtgccaa tcaagtgccaa gcctttgccaa tcaagtgccaa gcctctcttt
gcct tactacattg gtgt gagtttgaga cca tgttgtctga ccag cacgcactca gcga ggtggacatt acac agatgtaaaa ttca gatataaaag cgtg ttcttttagt atat tgatgtgtgt gtag gactgtagaa gaaa tgatcccag tgtt cttaagacgt atag aaatgctggt		tett tetetgetga gtaa tteteteeat cace teacettgge gete teaaggaca gtee teaaggaca gtee teaaggaca gtee teaagacet tgtg gatgtatetg gatt ateaaga gatt ateaagact eege etggagaaat tgga eagteeeae ceta ggggttetge gatg tggteeae eatt eettetaega ttea eagatgacga att eettetaega ttea eagatgacga gtgg gtteetge atte ettetaega ttea eagatgacga atte ettetaega ttea eagatgacga gtgg gtteetge gtgg atacetetge atte eagatgacga gtgg etgtetteet attea eagatgacga
ttggctgcct gcaagggtgt tttcttccac ctctgcccag aggaaagcga cagctaacac acatttttca ttgtcttgtg tgtttcatat ctcgtggtag aagctagaaa ttttcctgtt agtggtatag tgtacagtct	LVMGYQKKLR YSSVLILAFI DDRYICDRFY TVILILAFFA LYAFLGAKFK	atggcgtctt ccccagtaa aatgggctgg ttcctccacc cacttggctc atcattgtgg tctatctgtgg tctatctgtg cgggaaatct tcattagat gttcagccgc catccttgga tcactcccta cctgctgatg agcccattga tctagcaattca cctgctgatg agcccattca cctgcagtgg tctagcaattca cctgctgatg agcccattca ctagtggtgg ttcagcaattca tctagcaattca tcagcaattc
NP_003458.1		NM_004054
CXC	Chemokine Receptor 4	Complement Component 3a Receptor 1
753		755
. 92		77

	Homo sapiens	Homo sapiens
	ω	<
cttggggaaa cttcagtgag aaatagtaca	KMQRTVNTIW FILITAISLDR RCGYKFGLSS PQTFQRPSAD STHLKLFPSA IMIACYSFIV KTLMSWDHVC NNVISERNST	tgattatggg ttctaacacg ggtgggagtg catcaatgcc gccatcttg catcacgcctc ggccggcttg ggccggcttg gggcttcctg ggggttcctg cagtttctt gccatcgtca ctacatcaa ctacatcaa ctacatcaa ctacatcaa ctacatcaa ctacatcac cgactgcgg tagggagagc agtttcttt gccatcgtc agtttctt cccatgtt ctccatgtt ctccatgtt ctccatgtt ctccatgtt ctccatgtt ctccatgtt ctccatgtt ctcctctt ctaatttcc ttaatttcct ttaatttcc ttaatttcc ttaatttaa tgggagagc tggtgaaaacc cgacaaa tgggagagc tc ttaatttcc ttaatttcc ttaatttaa tgggagagc tggtgaaaacc
tttatgccct tggaggcagc tttcagaaag	NGLVLWVAGL IIVLNMFASV REIFTTDNHN HPWTVPTVFQ SPLDNSDAFL LVVGFLLPSV LLTDPETPLG ELTRSTHCPS	ataccacccc togataaaac ccaagcggac gcctggccctg tcctggccac acttccgagg tgctggtccat tgctggtggc ccttcctgga ccttcctgga ccttcctgga tctcctttgc ccttccttgga agtccgtggt agacccaggg agtccgtggt agacccaggg agtcgttgt agacccagga ccttctttgc ccttctttgc ccttctttgc ccttctttgc ccttctttgc agacccagga agtcgtattct actaactct tctctcatc cccacccc cccacca
aatcccttcc cagggaattc aacaatgtca	SLTFLLGLPG GRFLCKLIPS FVMCIPVFVY LDPSSFQTND SGFPIEDHET TPLVAITITR TPYHIFGVLS	tectteaatt aacaccetg atctttgcag gcattcgagg ttcctctcct ccctttggcg agcatcttgc actttcatc gtggtgcagg ttagccagg ttagctgagg ttccttatct gtggtggtggg ataatgatgt tccctgtggtg ataatgatgt tccctgtggag ataatgatgt tccctgtgagg acagaccaga accttagctc acttagctc acttagct accttagct accttagct accttagct cccttcctt accttagct cccttcct ccccttcct cccttcct cccttcct cccttcct cccttcct ccccttcct ccccttcct ccccttcct ccccttcct ccccttcct ccccttccct ccccttcct ccccttcct ccccttcct ccccttcct ccccttccct ccccttccct ccccttccct ccccttccct ccccttccct ccccttccct ccccttccct cccctccccc cccctccccc cccctccccc cccctccccc cccctccccc cccctccccc cccctccccc cccccc
tagttgcttt gcagtccatt ctgtccctca	PPVILSMVIL HLALQGOWPY SICGCIWVVA VQPPGEMNDR PADVVSPKIP GQFTDDDQVP VVVAVFLVCW DFRKKARQSI	gaacatgaac cctggacctc ggccttggtc ctgggtgacg ggtagccgac taaaccatc ggactcgtgggt gattgttaggg gattgttaggg taagctggac taagctggac cctacgtggtg agtggacact ggcccgatgt agtggacact tggaaacgtg agtggacact tggaaacgtg agtggacact tggaaacgtg agtggacact tggacact ggcccgatgt tcagggagacac tcagggaacac ggatggtgt agtggaacact ggcccgatgt ggatggtgt cctccttt tcagggaacac tggaaacacac tggaaacac tgaaacac tggaaacac tgaacac tgaaacac tgaaacac tgaaacac tgaaacac tgaaacac tgaaacac tgaaacac tgaaac tgaaac tgaac tgaaac tgaac tgaac tgaac tgaac tgaac tgaa
catctgccaa agaaagcaag gttccaccca	TDLLSQPWNE CCLSLPFSLA QNHRNVGMAC PLENRSLENI SQNLYSNVFK PQGFQDYYNL SQSKTFRVAV	caggagaca acaaggatac cagacatcot tcaacttggc ttgtacagca tcctgctcaa tgctggtggt tgctggtggt aacggcggga aacggcggga tcacgctcac ggtccacca tgcctacca tgccaccatcat tccagacttgt accttactt accttatttt taccagacttgt accttatttt accttatttt aacttattttt aacttattttt aacttatttt aacttatttt aacttatttt aacttatttt aacttatttt aacttatttt aacttattta aactcctaga aacccagactta aacttatttt aacttattta aacttattatta aacttattta aacttattta aacttattta aacttattta aacttattta aacttattta aacttattta
attgctctag gattttagga gagctcacac actototga	MASFSAETUS FLHLTLADLL CLVVFKPIWC SLDYPDFYGD SLPRGSARLT SSNSFYESEL FRWQRGRFAK IALASANSCF	agggggagcccattgattcc ctgggcaatg atctggttcc ttcacytcca gaccgctttc gaccgctttc gaccgcacga aggccacgaca aggccacaca aggccacaca aggccacaca aggccacaca aggccacaca aggccacaca atcttctggt cccaccttcc aggccacaca agtcattca aaatccctcc aagtcattca aaatccttca aaatccttca aggcaata aaatccttca aaatccttca aaatccttca aaatcattca aaaaaaatgt ttttgggaaat aaaaaaaatgt
	NP_004045.1	NM_001736
	Complement Component 3a Receptor 1	Complement Component 5a Receptor 1
	755	758
	78	97

	Homo sapiens	Homo sapiens
tgtaatccca gttgtggtga tctcaaaagc actttgtttt gtaatgatac gcaaaactac acattctcat ccgtgtccct caagaatgtt gtatacatga	GVLGNALVVW ILPSLILLNM SFLYRVVREE SRRATRSTKT INCCINPIIY	tiget ttaggaccat A saaag ettecatee egaec ectggaattt egatt tgagtetgga aacaatattt gatt ctaccacta aacaatattt gatt ctaccacta agaa aacaatattt egatt etgeetttt eate egattggag egatt etgeetttt eate egattggag egatt atgeaagace gatt agaaagtga etcac gagaaagtga egtet atgeateece egatt agaattacct eate attgactacca egatt aagaattacct eate attgagatt etcactt eate eate etcactt eate eate
	DILA LVIFAVVELV VQHH HWPFGGAACS CAVA WGLALLITIP TLTI CYTFILLRTW LLNK LDSLCVSFAY RSTV DTWAQKTQAV	
	-	
	н.	
	т 1 5а	11n NM_005795
	Complement Component Receptor 1	Calcitonin Receptor- like Receptor
	758	767

goccaatttg tgctgcttta ctggtgaatc tttttttctt gttaaatatt gtacgcgttc

	Homo sapiens	Homo sapiens
aaagctgtga ccatggcgac atgcacttcc gcaattctga tcagaagctc ctcttaaaac tgcttctcct aatgactttg aatgactttg aatgactttg aaagtgtaac gaattcaaac cscccaaga aaactcttta gtcctttttg tttcttttct	KIMQDPIQQA P WFRHPASNRT CQRITLHKNL LCEGIYLHTL LYIHGPICA LIYIHGPICA	ggagcttctg A cagtcattt ttgcagatac ttcagtacga tccctttaac
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cggaatccaa actacatcat tctttaatgg ttggaaacag ttggaaacag tccatgatgt tccatgatgt gccagaagac aatgtttgtaa acatcaccaa agttccagca agttccagca agttccagca agttccagca agttccaaca agttaattat ttttttccca agtgaattat gatctactcca agtgaattat tatatacaaa tgaacaaga atgaacagga atgaacaaga tatatacaaa tatatacaaa	SIQLGVTRNK YFQDFDFSEK LSIASLLISL SCKVSQFIHL AIARSLYYND YMKAVRATLI VQAILRRNWN NVLLKFENLY	aggccccgc cccctgtgg gaagtcgatc gtacgtgggc agggtacttc gatgactgcg
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	Calcitonin Receptor- like Receptor	Cannabinoid Receptor 1
	767	832
	83	8

	Homo sapiens	Homo sapiens
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	NP_001831.1	NM_001841
	Cannabinoid Receptor 1	Cannabinoid Receptor 2
,	832	8 33

	Homo sapiens	Homo sapiens
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	Cannabinoid Receptor 2	Leukocyte Antigen CD97
	8 33	922
	9 8 .	<b>60</b> .

Ното	sapiens
atccaggagc attcagaaca atccagaaca gccgtcaact ttcgccttct ttcgccttct gacgtgaggc actgccaat gaaggcggc ctgcacctct gaaggcgcc ctgcacctct gtgtccaca gaaggcgcc ctgctcaca gaagacgcc tgctcaca ggaagcgcc tgctcaca ggaagcgcc tgctcaca ggaagcgcc tgctcaca ggaagcgcc tgctcaca gaaatcaatc gcgcagctct attttgfga attttgfga attttgfga actgctcaca ggaagcgcc ctgctcaca ggaaatcaatc gcgcagctct agcttggtgc ctgctgacc ctgctgcact agcttggtgc ctgctgacc ctgctgcact agcttggtgc ctgctgcact gggcagctct agcttggtgc ctgctgcact gggcagctct agcttggtgc cagacccggg ccagcagctc agcttggtgc cagacccggg ccagcagctc agcttggtgc cagacccggg ccagcagctc agcttggtgc cagacccggg ccagcagctc agcttggtgc agcttgctgca aggttgctgcaa aggttgctgcaa aggttctcac aggttgtccaa aggttctccaa	PV SGAKTFKNES ENTCQDVDEC KD TVCEDMTEST WTPPPGVHSQ PG DVEALAPPVR HLIATQLLSN VT MGQSSARWKL NWAVAAGAED SS IRGVQLRRLS AVNSIFLSHN
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TC100_9N	760

	NTKELNSPIL	FAFSHLESSD	GEAGRDPPAK TILMAHYDVE	DVMPGPRQEL DWKL/TL/TRV	LCAFWKSDSD GLALSLFCLL	RGGHWATEVC LCILTFLLVR	
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	GLELYFLVVR	VFQGQGLSTR	WLCLIGYGVP	LLIVGVSAAI	YSKGYGRPRY	CWLDFEQGFL	
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EMR1 Hormone NM 001974	ctaaagtttt	tttctttgaa	tgacagaact	acagcataat	gcgtggcttc	aacctgctcc A	Homo
Receptor	tcttctgggg	atgttgtgtt	atgcacagct	gggaagggca	cataagaccc	acacggaaac	sapi
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EMR1 Hormone NP_001965.1 MRGFNLLLFW	5.1	MRGENLI	LLFW	GCCVMHSWEG	HIRPTRKPNT	KGNNCRDSTL	CPAYATCINI	VDSYYCTCKQ P	Ношо
Receptor GFLSSNGQNH		GFLSSNG	HNÖ	FKDPGVRCKD	IDECSQSPQP	CGPNSSCKNL	SGRYKCSCLD	GFSSPTGNDW	sapiens
VPGKPGNFSC	VPGKPGN	VPGKPGN	IFSC	TDINECLTSR	VCPEHSDCVN	SMGSYSCSCQ	VGFISRNSTC	EDVNECADPR	
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TSARTTATO .	STITUS .	NKTECA	HVG1	FI HVI FI BCF	EMALVE AVIT	FI MAPNI Y LHLH	NYFORDITAN	LHICAFGYGI.	
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Coupled accetedge Receptor ceacacada	accctc	acccctc	aga aga	ctggagagec ttgggggggc	ggggctggcg tcactctacc	gtgcctgagg ctcatggggc	acccttcgg	cctggacagc tcccgaagcg	saprens
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	Р Ното
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	NP_001496.1

G Protein-

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sapiens	Homo sapiens	sapiens		
LSCLYTIFLE PIGFVGNILI LVVNISFREK MTIPDLYFIN LAVADLILVA DSLIEVFNLH ERYYDIAVLC TEMSLFLQVN MYSSVFFLTW MSFDRYIALA RAMRCSLFRT KHHARLSCGL IMMASVSATL VPFTAVHLQH TDEACFCFAD VREVQMLEVT LGFIVPFAII GLCYSLIVRV LVRAHRHRGL RPRRQKALRM ILAVVLVFFV CWLPENVFIS VHLLQRTQPG AAPCKQSFRH AHPLTGHIVN LAAFSNSCLN PLIYSFLGET FRDKLRLYIE QKTNLPALNR FCHAALKAVI PDSTEOSDVR FSSAV		RANTUTNIEL LELAVSDIMI CLECMPENLI PNLLKDEIFG SAVCKTITYF	VIAATWCLSF PGIVMMVAYG	KFEASQKKSA KERKPSTTSS GKYEDSDGCY LQKTRPPRKL ELRQLSTGSS SRANRIRSNS SAANLMAKKR VIRMLIVIVV LFFLCWMPIF SANAWRAYDT ASAERRLSGT PISFILLLSY
Coupled Receptor ERYY GPR30 IWMA LVRA AHPL	PDSTECS  nin A  receptor  Receptor  aatggaat  ttggatat  aatggaat  ttggatat  aatggatat  aagcggt  tttaac  ggattat  gatgtc  accccc  accccc  accccc  accccc  accccc  aggatg  gatgtc  ttcagc  accccc  acccc  accccc  acccc  accc  acccc  a	nin A	tor .	KFEA
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	Homo sapiens	<b>Homo</b> sapiens
PGPPGARGEV GEEEEGGTTG AȘLSRFSYSH	gaggeceaet geagectgge getggetgaa A ctggaecegea gegetgecega accedegtg gaecetegtg gteaagtaca acaegacceg gaatgectat teaaagataa acaegacceg gaatgectat teaaagataa acaegacceg tgtegagece ctgcactact tgtcatcaac ctggtgagece ctgcattate ctggtgacca ttgtgggacat ttcatgac actactace cacettrate actgactat teatgacata tecettate cectatate tegtggtgac caacttette acggacattg teatgacata tecettate cectatate tegtggtgac caacttette agagaacatt teatgacaat tecettate tegtggttgac cacactgac gacacatte tegtggecect gatcaattte atgacaagt getggtttgg caaggagcet accettate tegtggecect gatcaattte atgacaagt tacgggcgc cacacate gaggaagagg getectgg gacacgett gatcaattte atgtccatc tegtgfecec accacacac gaggaagagg getectgg gacacgetg gacacgetg gacacaggg gaggttectgg gaggaagagg acctgtcaca gatcatttg atgtccatc ctacatcac cacacggate gaggttecteg gaggaagaag gacttggggagaagaggacagt cagagaaagag gaggttegec acaaggceag cacagagaaga gacttgggagaaagaggcecca tgcctactate atgggcccag agagaaagaag gaggttegec cacttgggaagaagaagacactcattgggaccactate cacactcact cacactcacc tgccttatacc agggactatec teagtteggc cacactcatc cacactcac tcattggagagaaaagaagagaag	LDPEGPYSYC NTTLDQIGTC WPRSAAGALV P SKINYSQCEP ILDDKQRKYD LHYRIALVVN IHWNLITTFI LRNVMWFLLQ LVDHEVHESN
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	NM_001883	NP_001874.1
	Corticotropi NM_001883 n releasing factor Receptor 2	Corticotropi n releasing factor
		1103
	ος ·	96

gtgagtatca atctccaagg tttcaaccc

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atgctgattt atcatgagcc

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agactctgag caaatacatt

aggtacggtg actccgtttc

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	Homo sapiens																										
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Receptor 2	Dopamine Receptor D1																										
	1240																										

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	Homo sapiens	Homo sapiens	
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	1240	1241	

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	<b>Homo</b> <b>sapiens</b>	Homo sapiens	
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	1241	1242	
	100	101	

Homo	Homosapiens
caccacttc ctgcctgccc ttgcgaaccg ccctgcagtg gcagtgctag tcatagagtc cttccttgac tgagttttct caccttgcaa gtcctgggag aaaaccttgag ccaccttgaag ccacctcacc catcttgaag ccacttag gcacttctg ccacctcac catcttgaag ccacctcac c	atttettet gggtatgtet agaaateaga geatetetga geatetetga ggtgceagee gccategeet actaceacea gtgatgeeet tgetgtgatg tgtgceatea
ccatcatcta agctcaccc cccqgcagg ctctgccagg ctctgccagg caggggcag ggccagaggc ggccagagcca tcccaagcca tcccaagcca tcccaagcca tcccaagcca tcccaagcca tcccaagcca tcccaagcca tcccaagcca tcccaagcca tcccaagcca tcccaagcca tcccaagcca tcccaagcca tcccaagcca tcccaagcca tcccaagcca tcccaagcca gaggagccca gaggagccca tctattcctt tccaagcagg atccgatgc atccaagcagg atccaagcagg atccaagcagg atccaagcagg atccaagcagg atccatgagg atccatgagg atccatgagg atccatgagg atccatgagg atccatgagggg atccatgaggg atccatgaggg atccatgaggg atccatgaggg atccatgaggg atccatgaggg atccatgaggg atccatgaggg atccatgaggg atccatgaggg atccatgaggg atccatgaggg atccatgaggg atccatgaggg atccatgaggg atccatgaggg	cactaaggtc aaaatgggtg tgctttgctt ctcggtctcc ctgggctatg gaactccaca gctcatcctg ggcctgcag ggccttgcag cagccttgcat ccttaatctc ccagcattgc
gccgtgaacc atcctccact caggccggcc ctcttcttag cacaccctca ggcaccaag ctgagtcagg ggggagagat ctgaggagat ctgaggagat cttccagg gctctgagaa ctttccagg gctttggccta actttccttt cttccagg ggctaggga acttcctt cttccagg cctgcctga acttccttt cttccttt xxxxxxxxxxxxxxxxxxx	atgaaacatg cttagaagca aggcaaagtt tggtaaactc gcacctccct gtggggcaga cctactgcgc tgaaggagcg acttgctggt tctggaattt cagccagcat
tgtcaacage cttcctgaag cctcctgaag cctcctgcc tcactgccct cctatctt ttgctggagc agcaggttgga tggacatcttgc gcaggttgga tggacctcta gttccacat agttccacat agcagaact ttctcacat tctcacac accaga accaga ttccacat tctcacac accaga ac	gaaagcagct gtaattcac gtcctgagaa ggagccgaag ttggcatcac aactacacct tatgcctct atggctgtgc gctgtggcag acaggtggag atgatgtgta
ggctgggcta tccgcaaggc ctgcttccca ggcctgggtg tccatgctcc ggctctaggg cttggcgtgg aggcaagcaa ataccagact caccccgatg tccccaagtg ggtctatggg aatgtatccc ctggaactt ccccaagtg ggtctatggg accccgatg tccccaagtg ygtctatggg accccgatg tccccaagtg ygtctatggg accccgatg tccccaagtg ygtctatggg ccccgatg tccccaagtg ygtctatggg accccgatg tccccaagtg ygtctatggg accccgatg tccccaagtg ygtctatggg ccccgatgg ygtctatggg accccgatg tccccaagtg ygtctccc ccccgatg ygtctatggg accccgatg ygtctatggg accccgatg ygtctcccc tccccaagtg ygtctcccc tccccaagtg ygtctcccc ccccgatgg ygtctccc ccccgatgg ygtctccc tccccaagtg ygtctccc tccccaagtg ygtctccc ccccgatgg ygtctccc tccccaagtg ygtctccc ccccgatgg ygtctccc tccccaagtg ygtctccc ccccgatgg ygtctccc ccccgatgg ygtctccc ygtacccc ygtacccc tccccaagtg ygtctccc ccccgatgg ygtccc ygtcccc ygtaccccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtaccccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtaccccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtaccccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccccc ygtaccccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtacccc ygtaccc yg	ggatacattc cagcactcaa tagtttctga aatggctgca aggaagcccc tagccacctg acatgctac cctggtgtgc agtgagcctg cctggaggtg cctggaggtg cctggaggtg
accattgagt gcacaggag tgagcaggag ttcgcttggc cccctccca cttcctctgg cttcttgtgggg ggccacagg accatgtaa ctcctcccg cgttacagc ggccaggag acgccatgtaa ctcctcccg cgttacagc ggccaggag acgccatgtaa ctcctcccg cgttacagc ggccaggag acgccatgtaa ctcctcccg cgttacagc ggccaggag acgccatgtaa ctcctcccg cgttacagc cgttacagc ggccaggag acgccatgtaa ctcctccc acgtcacag acgcccttg acgcccttg acgcccttg acgcccttg acgccttg acgccttg acgcccttg acgcccttg acgcccttg acgcccttg acgcccttg acgcccttg acgcccttg acgcccttg acgccttg acgcccttg acgccttg acgcccttg acgccttg acgccttg acgccttg acgccttg acgccttg acgccttg acgccttg acctttg accttg accttg accttg acctttg	taaagaaaac gctggaaaag gttcatttca gctgtcagta agaaaatttt gtcagctgag aggcccgcc tcggcaatgg actacttagt gggtggtata tttttgtcac gcatagacag
NP_000786.1	MM_000796
Dopamine Receptor D2	Dopamine Receptor D3
1242	1243
102	103

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ctcatgatca	tottonatoa	tetatatatan	aacadtotca	ctqaaqcqtt	agaggaggag	cccaagctca	ctggggccc	gccattgtgc	aatacccact	ggctacgtga	aaagccttcc	TGASQARPHA	LVMPWVYLE	GTGQSSCRRV	FGVTVLVYAR	DTALGGPGFQ	PLREKKATOM	VIYTTENIEF	ggacgcggac	tgcggggctg	ggtgctcgcg	gcccaccaac	gctgccgctc	gtgcgacgcc	cgccatcagc	tgggagccgc	ggcgcccgta	ggaggaccgc	catgctgctg	cgccaagctg	gccacccgcg	cggccttccc	ggacccctgc	ccccgactgt	deceeeeded	cggcctcccc	cgcgctccca	ccgggaadcdc	gacgcccttc
gegegtggee	+0+0+0+0+0+	taccacctac	cactcactcc	acatctggag	cttccaagaa	caccatageg	atctttgaag	ccaaatggtg	ccatgttctc	gacatggctg	cgagttccgg	LNYTCGAENS	LAVADLLVAT	AVVMPVHYQH	YSSWSFYLP	ELKRYYSICQ	KLGPLQPRGV	LGYVNSALNP	gcagcaccgc	cgggggcatc	tcatcggcgc	ccctgcagac	ctctcctggt	gcccccgcct	tcaacctgtg	accggcaggg	cggcggtggc	tgtgccgcct	cctdcccdct	tggcacgtcg	cttcccccac	၁၁၆၁၆၁၁၁၁၁	gcctccccc	accctgcgg	ccgactgtgc	၁၁၆၁၆၁၁၁၁၁	tcagagccgc	agatcaccgg	tgctgtgctg
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												Dopamine	Receptor D3						Dopamine	Receptor D4																			
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Homo sapiens	Homo sapiens
t ccgtgccccc gcggctggtc agcgccgtca cctggctggg ctacgtcaac a accccgtcat ctacactgtc ttcaacgccg agttccgcaa cgtcttccgc c gtgcctgctg ctgagccggg caccccgga cgcccccgg cctgatggcc g gaccaaggag atggggaggg caccccgga cgcccccgg cctgatggcc g gaccaaggag atggggaggg cgcttttgta cgttaattaa acaaattcct b GLLAGRGPAA GASAGAALVG GVLLIGAVLA GNSLVCVSVA P N SFIVSLAAAD LLLALLVLPL FVSEVQGGA WLLSPRLCDA LMAMDVMLCT S VDRFVAVAVVP LRYNRQGGSR RQLLLIGATW LLSAAVAAPV LCGLNDVRGR R DYVVYSSVCS FFLPCPLML LYWATFRGLQ RWEVARRAKL HGRAPRRPSG R PRLPQDPCGP DCAPPAGLP RGCGCPDCAP AAPGIPPDPC GPDCAPPAG C APPAPGLPR PRAKITGRER KAMRVLPVVV GAFLLCWTPF FVVHITQALC V SAVTWLGYVN SALNPVIYTV FNAEFRNVFR KALRACC	tgcgctgctc ctggctcaca gcgctccggg ccggtgcggg cggtgaggac gcacgcgcg cggtggagag gcacgcgcac cggtggagag cgccggcac atgctgcag ctcccagc gctggcgca atgcgtcggg cgcctggca atcgcatca ccgcgctcta caacgtgctt gtcatgttcg gcatcgtccg ctacatcttc aacctggcct tagccgatgc tgccaagtac trgatggaga cgtggccctt catcgactac tacaatatgt tcaccagcat ctacaatcgct gtctgccacc ctgtcaaggc gctgatcaac atctgtatct gggtccttg ctgctatcac atcgtgatct gggtccagg ctggatctg gacacggtga ccaagatctg ctggtactg gacacggtga ccaagatctg ctggtactac aaggagaagg accgcagct tgtgggctcc aaggagaagg accgcagc ggtgggacatc gacaggtggt tgtgggcacc ggtggacatc gacaggtgg ggctacgcc aatagcagc tcaacccgt gggctacgc aatagcagc tcaaccccgt gggctacgc aatagcagc tcaaccccgt gggctacgc aatagcagc tcaaccccgt gggctacgc aatagcagc tcaaccccgt gggctacgc aatagcagc tcaaccccgt gggctacgc aatagcagc tcaaccccgt gggctacgc aatagcagc tcaaccccgt gggctaggc cacatgagtc gaccgcaagcc acccggaggc cacatgagtc gaccgcaagcc agataggcg gaagcacgg gaccgcaagcc agataggcg aatagcagg tgggcctctg gcgcagtgc cacatgattg gaccgcaagcc tgacccagg
aggacatat aggacataa aaggacatag tecc MGNRSTADAD TERALQTPIN ASIENLCAIS PASVEREDR PGPPSPTEDR LPQDPCGPDC PDAVRAAALP PACSVPPRLV	ccgaggagcc gggggccgg gatccccctc acctagccct gctgcccct ggctgctgg ccacaggcca tcgtgcca ccaggcca tcgtgcca tcggcca tcggcca tcggcca tcggccca tgggcca tgggcca tgggcca tgggcca tgggcca tgggcca tgggcca tggggcca agaacttca ggaacttca ggaacttca ggaacttca agaacttca ggaacttca ggaacttca ggaacttca agaacttca ggaacttca agaacttca ggaacttca agaacttca
NP_000788.1	NM_000911
Dopamine Receptor D4	Opioid Receptor, delta 1 (OPRD1)
1244	1267
106	107

	Ношо	sapiens	•					Ношо	sapiens																								;	Ношо	sapiens				
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gcttcggttt	GSASSLALAI	TLPFOSAKYL	TPAKAKLINI		VIVWTLVDID	DPSSFSRPRE		gggtgagtat	gtttgccct	tttttcctct	cctcttgtgt	cttctgacct	gctccggctc	ctgcagagac	tcaattccca			agctgcccc	caccagtgtc		cctcttcagc					_								-			ODALDITINI.		
ccttgagaca	GANASGPPGP	LALADALATS				QLCRKPCGRP			ttcccctgct	ccttcccgct	ctcctagctc		gactgttcct	catctgactc	cacctgcccc		atgtatggaa		tcttcatcct	tcagacctct	tgggcagtgc	gcagctctgc		-									-				KITTACLALE KITTATE		
	gggtccggggg naypsafpsa			_	RMVLVVVGAF	LDENFKRCFR			tgcccctcat		ctatgctage	ctggtctctt	gcttccccag	gtccgcactg	cctcccctcc				gcactgccct	ttcatgcttt	cagctggctg	_	tttgcccagg:	. caggtcccag	acactgcctg		ttgccattgg								•		YSTELKALOA		
	CGGAGTTGGG				EKDRSLRRIT	SSLNPVLYAF	¥.	caaacggtgc	cttatcccta	tttcctcctc		cagttccatc	agctgccctg	ctttccact	tcctctctgt	tctgatggcc	aagtcagctg			cactgtcctc	tgtcctggca		tggctcagcc	gggtgcaggc	tgccctactg		ctttgtcttg		ggtggttcta	ggcccagcag							WEI FUNDHEY		
cagggcatct	gccggacttt MEPAPSAGAE		CKAVLSIDYY	VPIMVMAVTR	RSVRLLSGSK	HLCIALGYAN	TPSDGPGGGR	gggcctgaac	cccagagtcc	atctcttcct	tcttttcct	gcctttgagt	ctccagcccc	ctgctttgtc	cacccgacct	ccggtgtaac	ctgagaactc	atteetteee	gtaacctgct	tagctagcag	ctggctggcc	ccgtcttggc	gtgtctggta	gccacagact	ggggagtggc	tctgcacct	gtcttgccat	cattgggtat	ggcctcatgg	caacatgtct	ttttgcactg	ccctcttgcc		_	DSALPFFILT	GLGSTRSSAL	DEPENTIAS	ATPLLLALFC	
	1 500000 AN	•						NM_002036																										NP_002027.1					
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	1267	1						1424																										1424					
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Homo	Homo sapiens	Homo sapiens
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aaacaatttt teacacageacageacageacacageacacacacacacaca	LALVVIVONR FYINTYAGVN MSKOEAERIT PLTEKSGVNK HFTVCLMNFN	gagcactccc gcccccgtgg ggacatctga tagcagcatg ctgcggcctg
tacaaatggc tctatgcaca tcattggct tcaactctac ctttgcctac ctttgcctac cttgcctgag aaaggattga cactcccact agtatccaaa taggatatgt tcttcagaac tcaacacaat caattattca gacatttct tggaccett tggaccett tggaccett tggaccett tggaccett tggaccett tggaccett tggaccett tggaccett tgaaacggca caggagagca aaggacaca aaagcacaat ttattattct gaaattatca aaagcacaca aaagcacaca aaagcacaca ttattatt ttatttcttg ttatttcttg atatttattc agaagcacac aaagcacacac aaagcaccaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaagcaccac aaaagcaccac aaaagcaccac aaaagcaccac aaaagcaccac aaaagcaccac aaaagcaccac aaaagcaccac aaaagcaccac aaaagcaccaccac aaaagcaccac aaaagcaccac aaaagcaccac aaaagcaccac aaaagcaccac aaaagcaccac aaaagcaccac aaaagcaccac aaaagcaccaccac aaaagcaccac aaaagcaccaccac aaaagcaccaccac aaaagcaccaccac aaaagcaccaccac aaaagcaccaccac aaaagcaccaccac aaaagcaccaccac aaaagcaccaccac aaaagcaccaccac aaaagcaccaccac aaaagcaccaccac aaaagcaccaccac aaaagcaccaccacc aaaagcaccaccac aaaagcaccaccacc aaaagcaccaccaccacc aaaagcaccaccacccac	VFIIGLVGNL DALCRITALV AQTIPLLINP CKLFRTAKON SORHSFOISL	tggatcctga tgtgtggcag cttggagtct ctggagcagg tggttcttgc
ccaatggata gactgtcaca aggaaaaaa tttaccacacg ggagatgcct aactttatga aacaagataa tttgctcaga acatgcatgg gcatgtttca tgctgcaaac aaaaaggctc taccatgttg tacca tgtt tgtagccaa aattgctgca atgaggatgc atgagaagta atgaggatgc atgagaattcc cttcattgg caaacaaca aatttcattag aattcacaaa aatttcattag caaaaaaaca attcattag caaacaacaa attcattag atcaacaaa aatttcattag caaacaacaa attcaatgttag atcaacaaa	RIVMPLHYSL YAMGFDWRIG VCIFVWILVF IILICYSQIC KLRFSNFLEC	ccgagcaacg gccagagcag ggaactggta cggacgcctt ctggttgcgc
tggaccacca tcagggaaat gcattacaac tgatatactt ctggagaatc tgcaggtgtg tctacgctac gattctagta tgaaaggatt tctgcttggg ttctcagatc tggtgtaaac ttcacacc tttcacacc gatgaaaggtt tgcagcccct gagaaaggtt gagaaaggtt ttcacaat cacactttgc tttatattt caacattatt caacattatt caacataaa ttgtaaacaa tttatattt caacattatt caacattatt caacattatt caacataaa tttatatatt caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattcccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattccc caacattcccc caacattccc caacattccc caacattccc caacattccc caacattccc caacatt	CDLYAHHSTA TTALPTRIAY KIKRIEHAKG CFIGYVLPLI HVAIIQHMIK	tctggccagc gggacgcctt acactgggaa cagcggccac cggacgccac
gatatacacc ctgcaactcc taatgcctct tggtcattc tggtgatttc tggtgcattc tggtgcaccc tatttgtctg agcaggaggc ttcctggat tcatctgcta ctgagaaatc ttgttctctg agcaggaggc ttcctggat tcatctgcta agcaggaggc ttcctggat ctgttctctg agacaggagga ttgttcttat aaagtgtatta aactgtattg accaaagaga attagtattc cccaaagaga attagtattc cccaaagaga attagtattc accaaagaga attagtattc cccaaagaga ttagtattc cccaaagaga attagtattc accaaagaga ttctttat acattttgt actgaatag attagtattc cccaaagaga ttagtattc cccaaagaga attagtattc cccaaagaga attagtattc cccaaagaga attagtattc cccaaagaga attagtattc cccaaagaga attagtattc cccaaagaga attagtattc cccaaagaga attagtattc cccaaagaga ttctttat acattctcaa accgaaaga attagtattc cccaaagaga attagtattc cccaaagaga attagtattc cccaaagaga attagtattc cccaaagaga attagtattc cccaaagaga attagtattc acattattc acattattc acattattc acattattc acattattc acattattc accaaagaga ttctttat acattttgt acttattc acattattc acattattc acattttgt acttattc acattattc acattttgt acttattc acattattc acattattc acattattc acattattc acattattc acattattc acatttttat acattttgt acttatttc acattttc acattttc acatttc acatttc acattttc acattttc acattattc acattttc acatttc acatttc acattttc acattttc acattttc acatttc acattatc acattttc acattttc acattttc acattttc acatttc acattttc acattttc acattattc acatttc acatttc acatttc acattattc acatttc acatttc acatttc acattttc acatttc acatttc acatttc acatttc acatttc acatttc acatttc acattattc acatttc acattac acattattc acatta	PPSATPGGND TNLVISDILF IAVVHPLRYN KSLPWILLGA VVFVLCFTPY ACKGYKRKVM	ggtgggggac ttgccccggt cagtggctga tgaaactgcg caagtctgtg
actecgeect gecaggatag ttactageat teactatgeaa gtgttttaca ttcattgetg ggcgtgtgtaa actaaatetc ataatcattc aaccaattet aaccactca attgttgtgt aagaageat tttgcatgta ttgcatgta ttgcatgta atgatteta atgattgtgt agaagataat tcagetteca ccaatgtaa ccaatgtaa accaatgtaa ccaatgtaa ccaatgtaa ccaatgtaa ataaacatt ccaatgtaa ataaacatt ccaatgtaa ccaatgtaa	MDIOMANNET KKINSTILYS FMTCLSIDRE CMEYPNEET KALNTIILII CCMDPFIYFE	gagacattcc aggtaggcat aggatcaaca aacttggctc cagccgctct tcgcggatct
NM_004951	NP_004942.1	NM_000115
Gene 2	EBV-Induced Gene 2	Endothelin B NM_000115 Receptor
1451	1451	1486
111	112	113

gaatttaaaa gttgttgcat aatatqtaac tcaaacctca ctgtcattca cctacataca aggttttgat ccttcacctc gtcatgctta gtcgtgctta aagtcattaa agcacactat tatgagctgt agcacttaat tttatttta cttttaaatg caattaatat atggagagat tatgtataat cagctacctg agtttgcttg aggatctccq gactttcaaa tgtctacaag tttcatacag cagatatcga agcagtagaa tcccgttcag cagtttctat tgaaatgttg acgggaagtg tgaacttttg ttcctgcatt atacagetea acacaacact gcaaggctgt tcttctttt ttaaatgatc aggagggagt aacagaaaga ggtggctgtt taaaaagaga aacaacttt gagcagttta agcattctgc tgtgccagct gtacatttaa ccaagggttc acaggacggc agatcaagga ggatcatcgg gtcccaatat tccctatcaa agctggtgcc tgagtattga caaaatggac ctgaagccat gcttgcttca taatgacctg taaagcagag gctggcttcc ccaatagatg cttcactgaa actgctttaa aggaaaagca ccagtaataa tattggaccg gtatttgcac tatgacattt tegtegtgaa taacaacttc caggatattc taaaacagaa tcagttaaga ttttttgaat attattaaaa taaatactta tagctttacg gactgtgaac tgcctggtgc agtgtccaca gtttctagca ttgtaaatag.ccaatagaaa ggttaaaatg atacagatta cccaaaagac tttttcagg accttatggc ctatgtgctc attggggttc ctggctgtcc gcaaaagatt aatgatcacc cacagctaca taagaaagcc ctattctttc aaaggaagaa taagtcactg aatcctttaa gcaaatgaga cccaaacctc gactggcaca tcctttacat ttgtcatctg cctgtgctca cctaaaggag atgcgaaacg gagatgtgta ctgcgaatct ttttatacac cagaatgatc atcaacatgg agattcaaaa cagtccttgg aacttccgtt attttcttta aaaaaactat ggacccatcg ttcgtgctgg gtcattgaca tttgccctct gattgcttta ctatattggt ggtgagcaaa tgaagaaaa cggatatgac actgtatttc aaaacaaac ttttaacact cagtgggaat ctcagaattt aaaattttaa gtaattagat tcactagaag gcatgtaaca aattattaca gaaaggctat ctatctacaa ctgtttggtt gagggcaggc cccatgctgt tttcaaaatc tqtattattt gctgcacatc tgtgctgagt aattaaagga ctctgtggtt ggteettgte acatagetet acccactaag gaacaagtgc atttggagct aggaagttat ttacaagaca cactgcattt tctttataat tgcggaggtg cccgtgccaa ctgccttgtg tgaagctcac tggtattgga agaactattc aacatttgcc agtgtaatta aatgagctca actctgatat tactcaattt ttatcagatt ctggaaacat cattacactt caaacaagca ttaaaaagaa tagaatgttt gaagacaata agcttaaact atgattaaat tcataataaa ccctctctca tactaatttt taatgacgcc cgttggcacc tctcccctcc cggttgtgtc aggactggcc tgggaatcac cttggagtag tggactacaa cattggccat gccagtcatt ctaatgatca gaaagaaaat tagcacttca aaatactatt ttatctacaa tgggagacct tttggggtggt tcatgcagtt gtggcatgca tcttttgcct ctctgtattt taaagcttat ctggcgcggt agettggete ttctgcttgc agaaagaaa agcaggattc agctttctgt aacccaattg aagttcaaag tcttgaaaga aacaaaatga taaaatatta ttacggcatg ttttacagt taggcttaaa aatcaatggg aagcttaaat tatcacacta tttcggaca ttttgaaat caacatgtca tataatactt caaagagaaa cataccctgt tcactatcgt ctgcatgtag gccagtgacc gcaggtagca gctatagtta accqcaqaqa ccacgcacca tacatcaaca cttctgagaa ctgctggcag gctgttgctt attgttttga ataattacga aagacagctt gccaaaaccg tgctgctggt aaagcctccg

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agaacctctt aggatagctt aaatgaggtg gtcattgccta aatgtcccaa aatgtggcca tcatagaagt agtttatca agtttatca agtttatca agtttatca caaacaatt caaataga aatgaatgt caatataat caaataga atgaatgtta atggatgtta caaacaatt tcaacaacatt tcaacaacatt tcaactactaat aaggaataca atgaacatt	cttattttccatt ttattcaatt KTLWPKGSNA VFVLGIIGNS AEMCKLVPFI VLAVPEAIGF FFYTLMTCEM NQNDPNRCEL KQSLEEKQSC	ctttgggaagg tgcgagccct ggagaggctt cccgggagaa gccgccgcg cggcttcctc acggttgaaa aaatttgcct
tgagaccgta aaagtgcctt aacacagtgc cctaacgtgc cggtcttaaa atacaccaac atacaccaac atattttcac ccatgtactg ctaatttcac ccatgtactg aaaattgcat tattgttaac ccttatttac aagtacactt tattgttaac ccttatttac aaaattgcat ccttatttac aaaattgcat ccttatttac aaaattgcat aaaattgcaactt tattgttaac ccttatttac catatggcca	taagttttt taacaactac attgattgtt taaaagaaat attatcaagc aagtatgaag FPPDRATPLL QTAEIMTPPT QGPIEIKETF KYINTVVSCL IVIDIPINVY KLLAEDWPFG GIGVPKWTAV EIVLIWVVSV TAKDWWLFSF YFCLPLAITA VFALCWLPLH ISRILKLTLY KRFKNCFKSC LCCWCQSFEE	aggtctggag ttcttttcg gagagggg gcgacacctc agccgaagcc tcgctttctc gccgagctcc atattcctc
		gtggagtgga ctccggagtt gacgattgtg tggggtccca gaagctgtgc ccacccaccc gtctgcgcac gcaataagag
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tttctttcat gttgtgaaa aaacccatgg atgcaaaagg cgaaataatt tcaatattga tctttaattt tctcaatttt tctcaatttt tctcaattt tctcattt tctcattt tctcattt tctcattt tctcattt tctcattt taggacttt gatttaaaa gttcaaaaa gttcaaaaa aaacatgggt atatctaaa	aagcaaaacc cactaattca ttatttatgt attctggtc ALVALVLACG VPKGDRTAGS CWRNGPNILI SLCALSIDRY YLRICLLHPV INDHLKQRRE GINMASINSC DNFRSSNKYS	ccgcctcttg gacagactgg tacagtcatc acccggtcgt ggaagttttc gacaccggcc gccgcgcgga ggtgtaaaag
acatggtgct agctttgtgc gggatgagat gggttggagg cgtcacatca atattttactt ttgttttctg gaaagaaaga acaaacttgt cattttagac tatatttaat tcctgatacc tgaaactaca ttcatacat ttctttacat ttcctagtat cagctcaaaa gtggatgtat cagctcaaaa gtggatgtat cagctcaaaa	tttattatgt actgtacaga caagtggaca aaaatgccac MQPPPSLCGR SLARSLAPAE TLLRIIYKNK QKASVGITVL DIITMDYKGS LRKKSGMQIA LSFLLVLDYI LKFKANDHGY	gaattcgcgg agacggggag cgcgcgcgcg catccatccc gcagtgccca cggagcccgg tggcccaggc
	NP_000106.1	NM_001957
	Endothelin B Receptor	Endothelin A NM_001957 Receptor
	1486	1488
	114	115

ctctttgctg ttctctgatc tttaactgca aaaagacaaa tatttttaa aaagtaatgc ttttgtatga ttgggattcc tggccattcc ccctcatgac aacatcttaa tggacaagaa acttggcaac ttaaaaattg cctcggtccc gcaaggtaga aagtacatgg gaaactttag gccaaacaca ttttttaaa tgatgacaca cctgagactt atttcaccac tggggaatgc acgcgctgat tcaatgtatt ttctttgcaa tctgcgctct ataaaacctg acacagaccg gtactcccat aatttacata gaagactgtt atatacatat tcatgtcagt gatgtgtaat cttcagcttt actggtggct atttggtcct ggtgaacagc tagagettte tttgaaaaa tcactattta aagcacagtc gtcctcaacc gttcagggaa tcctttatcc atcggtatta agcaagaaat agtctgatga aacaaccaca gcactcctcg cgggaatctc ttccaaaacc taattgatct gggggagaat tggtcaccat ttgtccttca gccagtatt gttaaattca ttcatgtaaa cagtaagtct gatgagttta gcactggttg catgtggatg caacccacta actaaaatta gtgggaatgg aatggcccca gatctcccta tttggcgtat gatgtaaagg atcttctaca gccctcagtg gtaatttttg tataacgaaa aactgtattt tttaactctg aaaaagatcg atatatgt tcacaatgac accettagaa tgcatgaaa caatgggaac ggggatcacc ctggatcctg gaaaactgtg catggattac gtatttgtg actgtgactc cgtacttctt aagtgattt gtcatttggt aatactgttt cacctaagag tgttaactgg cttttggctg tctaagcaat taccactcat tattttcatc atgtatgagg ctggagtcgt gttctaccaa gtgcactgcg ctgcttggtt ccagtccaaa ccacgatcaa aagaaatgct ggtgggagct ttacacatag atttccacg caggccctta atttttaaq tgttttgtat gtatgtgtca taatagtgac gaagtggcca cccacagcag tgtggtcatt tgaatatagg cttgagaatt tcagggcatc acagcacaa gcttcctggt acaactattg tatcttgtac accagaacaa accttatcta ggccttttga agtecteggt cagttgcctc ttgtctccat tggtaccett aattcatgga tgcccttggt ggaatggcag gtatattgaa tcttactgct gctgctgtta agtggaagaa tgaactgacc tcacaaggca cacacccaag atctacgaat actaaaaaat ttactacttt ggtgaatgtt tactttttt tatttgaaat ttgaacttat ttagattagt acaaatacta tactcaaaga accttgaaca tcacaagttc aaatgttaat gtctaaaaca caggtatttg tttgttaaaa acataattt aaacagttt ccatagctct aggtcacttt accettegee cctgagagat ggctcaatgc aggatcattt gccacatcaa cacttaagcc tgtataaacc aattcactcc cacccacaac tgtattcagc agaaggatat tggcagttct caagattttc aggtgagcaa taaagctaca attacaaggg gtatatagaa tctcttaatt catataggaa acagagetea aacactgtga gcccttggag gctgggcgct tttttgcaga aggtacagag gccattgaaa ggcttcgtca tatttctgta ttgaacagaa gaagtggcaa ttacttagtt tgcctctgct acaagcatcc aaggacagca gagaaaaaa acatgattat taatagatgt tagttctttt tcaagtacca aattttcatt aactctqctc tagtgttgac catgaacgga ctggtttatc ttctgcgtgt atatgggctc aatagtattc tecettte caagatggaa cagtgataat tttcgtggc caaatacatt agccagtctt gctgttccc tgaagcgatt cttcgggttc ttgtgagatg gttccctct gagcagccat aatcctctcq aaatgaaacc ctagictttta agattaacga taatagccta acacaaattc tttggcagtt atggtgttt ttcaatcaga aaaatcaatg atgattcgga cacctcctat acccagcaat taagctgctg tttggtaact tatgctcaat gcagcgtcga ccgatgtgaa catgaattca tttccagtca cttcttcctt tcagtgcact

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agt aacttaacga ttcttcactt cttggggttt aca tctccctcc acattgtcac catttcaaag ttc ccagatgttt acagactgtg agtacagcag tat atataaacaa ttgtaaattt cttttagccc tat ttgtgtgtgt gatatatgca tgtgtgtgat taa ttgtgccccg cagttgtgcc aaagtgcata cat catgaccacc tgcctcagtc cattttaacc ttg taatcatgtt accattacaa atgggatata ttg actattcctg tgctggagca aaagtcatta cct caattccata tggggttttg tttggttggt aga cagattgctg tgctggagca atgccatta cct caattccatg tgctggagca atgccaggt aga aataacatca ggttccagtt gcttgaatga tta aataacatca ggttccagtt gcttgaattg gtg ttagccatag gtcacacca ttttgtttag gtg ttagccatag gtcacacca ttttgtttag gtt tctttcatat gaaaaaaatg cattttataa cgt caacgtgcat tttatttatg cca aatttctacc tttactacac cca aagdccctag ttgqcagtag	SNHVDDFTTF RGTELSFLVT FIVGMVGNAT LLRIIYQNKC NDFGVFLCKL FPFLQKSSVG ILSFILAIPE AIGFVMVPFE TAIFYTLMTC EMLNRRNGSL TVYNEMDKNR CELLSFLLLM SKSLMTSVPM NGTSIQWKNH	tct tgcggcacag gaaacgettg acctgagtet ct tgcggcacag gcaacgettg acctgagtet ct tgcatgatgt ggettccaaa gactcaagga gaa ggcagaaatg gagattcaaa caccacgtet aca tgtgtcccca ctgcagggag tgaactgctc aac tgtgtcccca ctgcagggag tgaactgctc tcctagctgt ctcatccctt gccctggaga tgc tgctgggtcc tcttggcact cacctggcac gcc caaaagaagg ggacattat ccttgggggg gct aaagatcaag atctcaaatc aaggccggag cgt gggtttcgct ggttacaggc tatgatattt gcc cttcttccca acttgacgct gggatacagg aag gccttggaag caccctgag ttttgttgct gat gagttctgca acttgacgct gggatacagg gat gagttctgca actgctcaga gcacattccc
gaaaaataat tacccacaaa tgccaccagt tcagtatgaa cctaactcc cacccaaca ggccaccagt gacttttgct gggcatttt attttctag actttttgct gggaataat gttttctagagt gatttattatag actgtctctg tggaataatagtgtatgtgatgatgatgatgtgatg	gtttacagaa WLALVGCVIS QQTKITSAFK VIDLPINVFK SRVQGIGIPL YQDVKDWWLF LVVIFALCWF	caacaggcac ctggctgcag ccaggaagga ggagggagct gtttgccagc accgaggtct tgcagaatga aaggcatcac aggaggcctc ccacccacat tacaagtctg gattgaggaa tctattattt tattaatcaa tctgtagaca caagggagaa acttctggga gcctccaaac gacggcagaa ccatggcatt ttatagctgc acctctgcct acgggccaga ccagcgagcc tctttccta ttcattttgg agtagcagct tctgtggaat gtatcaggta taatttccgt gccatagagg agataaacag cagccagcc atatttgaca ttgcaacac cgttctaag caaaacaaaa ttgattcttt gaaccttgat
	Beceptor Receptor	Sensing Receptor (CASR)
		117 1598

gggcttcctg cttcttcatc cctcctcttc atgcatcctg cttccaccgc catgcagatt ccaggagctg gtcccggaag ctctgccgta cttcaacaag ttgcagcacc gaaagttgag gggggagcag ctggcacctc ctatgccaag ctccagggag gatcattgag tagtgatgag gaaccacac gategeacte gtttatcaag ggactggacg gcaacgatct agctgatgac ggatatctgc gcatgtggta cccagatct gctggccagc ggttggcggc cctgaagaag agaaacattt tctgagaggt cctctgtaca tttacggata tatatacc ggcaaatctg cctcagcaac ggccactgcc ggtccaatga gctaccgcaa ccacggcagt tctccagtgg gcaagatctg tccgggaatt agttttggga ccttccgacc attacacgca ccttgcaaga cagacatcaa caaacaatat ccatcatcaa attacaacgt ggagtgggtt ccaggaaagg atggggagta agccctttgg tgctgggtgt tctcctacct gggagcccca tctgcatctc tccccaccag tctgcacctt tcatggccct ttgccttcaa gcatgctcat gcaagtttgt cgtgcatctt aggaggtgcg gccgcagcaa cctcctcctc agaagcagca tcccacagca gcacaattgc aagagatcca acttccacgt tggacacctt atgagcacca ctgaggaaag ccagcagact ctggttttcc gagggctccc ggcttgctgg ggatccaccc cccgagaggc ccctgaccc ggctcctgtg gggaactatt gaagtcgggt gagtgtcctg ttcttcatcg gaggccaaga ccccctcaa tgcttcttct atcaccttca aacaccatcg gccacgctgc tcaggcgtct tatgcctcct atccccaatq tctgatgagg atcgtggttt aatatcacgg atgcctcagt atcccaggct tttgccaagg cctttacctg agctcgacag ccttacatag attgcccacg ctaaacttta aaaatcctgt ctggcaggga gatgacttct tcgtggacgg acagcctttg aaccgagagc agcttcgtgc agcacctatg aactgggtgg cgagaggaag gtttagcaac tgagtgtgtg cgagtttctg cagctccctg ctttggcatc cctggtgtt cacgtgccac ggctgccatc agccaagttc agcctatgcc agccagcttt gccatcccgc ggctgcccgg aggetecaeg attcccacag ggccaaagtc tgtccggcgc tgcaaaagga cgtgtttaag ccgagactgc caagtgccca caaggccacc gcagttcctg ctacaccgcg tgagaaattc cctgatcgcc tgtcgagacc agtctactcc cttcaccaat cctacggcat caacgaggag cattttcctg gcagcagcag agcaactggc ccaggtcagt cctccgaacc ctcccagtac ggctgggcag ccacaatggt tgacctggtg tttccgctgg gtgaactcat atgagtgtgg gtgcctgtaa cacccattgt gctgcttctc gccagccggc tgatctggct tcatcttcat cctgcctgct acttcaatga ccttcattcc ccatcctggc ttctcttcaa ctttcaaggt gcagccttgg agcaagagca aaaattccac ccagctcctc tegetetgaa ggaagtctgt tgtacttagc tcctgaagca gactcttcat ccaactgcag cctgctgctt ccaaggagat ccgtgctggg accgtgtcct ggctcaacct tcaaggagat gtggcgacag ggagaggct atggctccat tcaagtctt tcatcgagta ggccggggat tccaagaagg acatcagcag ctgtggtggg tctacattcc gtgaaaacca atcggctaca gccctaaccc atcgacttca gaggtgattc gagcccctca gaggcctggg accattggat gtccatccca cacgaagaaa ggggatgaga gtgacctttg tccccagagg aagggagaa gtgcccttct gggagccca tcctgcattg ttccgcaaca tecetgetet tgccgcctgc aagtggtggg gtcatctgtg gaggatgaga ctgccggaga gtctggatct gaggtgattg atctacatca gcagctcacg aagcggtcca aagagcaaca aagaatcaat gactatgggc aactgccacc tcctacaatg tgcttacctg gcgtggcagg acagatgcca accetette tctacgattg ctggggctct atggcagaca

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caccttctca gcaccagaac actcccgtg actcccgtg acttgtagtg acactgtagtg ttcttggggt taatagacac ccatgttccc LKSRPESVEC P TLSFVAQNKI SRLISNKNQF EERDICIDFS KIWLASEAWA FWEETFNCHL YTHLRISYNV NNMGEQVTFD SGFSREVPFS SNENHTSCIA SYLLIFSLIC PTSFHRKWG MALGFLIGYT KFVSAVEVIA REVSAVEVIA RENVSRKRSS PQQQRSQQQP QPLLPLQCGE VTENVVNS	· · · · · · · · · · · · · · · · · ·
gcggcacggt ggaattctac accagccatt caggtctgca tgtcccagc ctgttacaga gcagagaggt gaagaaggga gtgaattgac HFGVAAKDQD CNTVSKALEA YIPQVSYALEA YIPQVSYALEA XIPQVSYALEA XIPQVSYALEA KEIVRNITG KSVHNGFAKE ISVETPYID LKHINHINFT LFINEEKILW ACNKCPDDFW PIVKATNREL RVLIVFEAKI FIPAYASTYG FIPAYASTYG FIPAYASTYG FIPAYASTYG FIPAYASTYG FIPAYASTYG FIPAYASTYG FIPAYASTYG FIPAYASTYG FIPAYASTYG FIPAYASTYG FIPAYASTYG FIPAYASTYG FIPAYASTYG FIPAYASTYG FORSOPLITH OGSSDFILTH OGSSDFILTH OGSSDFILTH OGSSDFILTH OGSSDFILTH OGSSDFILTH	
atcttggca atggccacg ctgaacaga gtcaggaaa cctgaagagt ggaggagaat ttctctgag ttaaatgaca tTAVANLLGLF TTAVANLLGLF TTAVANLLGLF TTAVANLLGLF TTAVANLLGLF TTAVANLLGLF TTAVANLLGLF TTAVANLLGLF TTAVANLLGLF TTAVANLCGLF TTAVANLCGLF TTAVANLCGLF TTAVANCS T	
gcagaaggtc gaagaacgc cagcgatacg agatctgacc ggtggaggac catcagtggt aagactgggc ccagactcct tcacaccatc GPDQRAQKKG INSSPALIPN VVGATGSGVS INSTAKVIVVE ALKAGQIPGF GDRFSNSSTA RGLFTNGSCA GSIVFKEVGY CCFECVECPD IMLYTAPPSS INLYTAPPSS	
ccagatgcaa atgagcctca accagaaag aaacggactt agcggccaga aggaatcgcc ccgaatttag LALTWHTSAY LALTWHTSAY LALTWHTSAY LALTWHTSAY LALTWHTSAY CSEHIPSTIA ERQATAMADI ELQANIFAIEE COEHIPSTIA ELQANIFAIEE DTFLKGHEES LODIYTCLEG INWHLSPED RKGIIEGEPT PFGIALTLEA EPGDWTCRLR CTFWQIVICV AFKSRKLPEN CIFFUKIYII SSSISSKSNS GTVTFSLSFD	
cagcagcagc tcgtgagttg cagtgcggag agtggagacc tccagttcac aattcataaa ccagggatg atcaaatgcc ttt MAFYSCCWVL MAFYSCCWVL MAFYSCCWVL MAFYSCCWVL MAFYSCCWVL MAFYSCCWVL MAFYSCCWVL MAFYSCCWVL MAFYSCCWVL MAFYSCCWVL CCAGGLUGU KSFLRTIPND ELISWTE CESSSLFFIG LILAASFGLLA SLGGSTGSTP CLIAAICFFF ILLAASFGLLA SLGGSTGSTP SLGGSTGSTP RIGGSTGSTP RIGGSTGSTP RIGGSTGSTP RIGGSTGSTP RIGGSTGSTP RIGGSTGSTP RIGGSTGSTP RIGGSTGSTP RIGGSTGSTP RIGGSTGSTP RIGGSTGSTP RIGGSTGSTP	ggcacgagga gacacgagga gacacgaggt tttggaagtt gcaggtttag ctacgggatc gatagtttag atagaaagac taaatttaga caattgagct aggaaaaacg ccctatcac
NP_000379.1	NM_001462
Calcium- Sensing Receptor (CASR)	Formyl Peptide Receptor- Like Receptor
1598	1676
118	119

	Homo sapiens	Номо sapiens
ctggctacac ccaccatctg tcatcattgt taattcattgt taattcattgt ttttcctctt tttcctctt ttgcatcctg ccagaggat gctatgggct ttgccttct ttgccttct ttgacatcct tgcttacgt gcttacgtc ggtattcgtc tgcttacgt ggtattcg acttctgcct acttctgcc acttctgtc acttctgtc acttctgcct ttctatttt ttctattttt ttctattttt ggaataaac acgaattct tggaataaac ttggaataaac ttggaataaac ttggaattac acttctact ttctattttt ttctattttt ggaattacac tggaattac acgaattcct ttctattttt ttctattttt ttctattttt ttctattttt ggaattacac tggaattacac tagaattcct ggtttccatg	GAGERMIRIVI P GSVELIGEIA · NGDIXCTENE KGMIKSSRPI AFFNSCLNPM	M ggatggatgc A ctcaggatgt caaggtgaca caccaagctt
		SPRAETELDA gaaatcaggt tgagcttggg gccaagagag ggtttgtcct
		r FINDIAANSA aatgcagaaa ctggcattcc gtttttctct attgaactga
		LERALSEDSA ttctctgca ggtctctttg ctctaacagg
		EKLINSLPIS tgtggaggtt ccctgctcct tctgtcactg
caacttctcc catttctgogg cattggact ctccatggac cttcatggc cttgactaca gggtactaca gggtaccgtt cattgcagca cattgcagca cattgcagca cattgcagca ggccctgtct ggccctgtct tgcagagact atactacct gatgcacagc gatgcacatgg gatgcacatgg gatgcacattgt gatgttagatta gattttagat aaatgcattt ttataaataa cacacttagt gatgtttaggt		LivevGQDFR cgctgagatc ataattatgg catcatcgga gagattcctt
	NP_001453.1	NM_000145
	Formyl Peptide Receptor- Like Receptor	Follicle Stimulating Hormone Receptor
	1676	1681
	120	121

	Homo sapiens
tggagaaaat agagatctct ccaaccttcc caaattacat ttaagcacct tccagaac ttaagcacct tccagatgt aagataacat aaacatccac gtgtgattct atggctgaat gaacccaact agatgcagtg augttttcca aggagcctct ccagccattg ctatggctta taaaaaagct gcctactctg ccagccattg ctgtgccttt gcaaccaact agatgcagtg ccttctggc agaagacat tcagcattg tattttaagg ccttctggc agaagacat tcagcattg tgctgcatat tcagcatcac agtcccagg gattgacta tgacttac tgaacctacc agtccccagg tataaactcac agtccccagg gattgact ttttgcttt ttagccattgc tgtgctcatt ttagccattgc tgtgctcatt tgaaggtgag catctgcct tgtgcctcct tgtgcctcat ccattctcc agacctcacc agtccctcac tgtgctagac ttttgctttc ccattctcc aacttcccac agtcccaac agtccctcac tgtgccattga ttttgctttc ccatcccaag ttttgcttcc aatttcctc aatttctca ccatcctcac tgtgctcatc agccattga ttttgctttc agaagttga ttttgctac agtcctcac agtccctcac agtccctcac agtccctcac agtccctcac agtccttcag tttgctttca cccatcaac tagccctaaa ttagcacaaa ttagcaaaa ttagcaaaa ttagcaaaa ttagcacaaa ttagcaaaa ttagcaaaa ttagcacaaa ttagcacaaa ttagcacaaa ttagcaccaaa ttagaaagtt aatttcttc ttagctcttga ttagcaccaaa ttagcaccaaa ttagcaccaaa ttagcaccaaa ttagcaaaa ttagcaccaaa ttagcaccaaa ttagcaccaaa ttagaaagtt aatttcctt ttagcctttga ttagcacctt ttagcaccaaa ttagaaagtt aggatactt ttagcctttag ttagcacctt ttagccctcag ttagcaccaaa ttagaaaact ttagcaccaaa ttagaaaact ttagcaccaaa ttagcaccaaa ttagcaccaaa ttagaaaact ttacctttag ttacctttag ttaccttcag ttacctttag ttaccttcag ttagccctctttag ttaccttcag ttacctcag ttaccttcag ttacctcag ttacctcag ttacctcag ttacctcag ttacctcag ttacctcag ttacctca	PSSEPRIATE RIEKANNLLY ERNSFYGLSF VILDISRTRI
atttcagga tttggggacc caacaacctg ctctacatca gttaatatcc aacacaggta aaaggtttta cttgacattc cgtgggggctg agctttgaaa acacaactgt gcattcaatg ttagaagaa ttgcctaatg ttcaagacag ggcaggtcg acttacaact ggcaggtcg acttacaact ctctgacctg actacactg ctgctccctg actacactg atttgacatg actacaatg atttgacatg actacaatg ctgctccctg actacactg cagagtcctg attggtta actctacact accagccaat ctgtgccaat ctctgcatt ggaaagatgg ctacacatt cttggccaat accagaca ctttggcatc actacaact ctttggcatc actagcaac tgttgccagt gtcatggtga ctttggcatc actaccaca aggaccat tcttgccaca tgttgacaca ctgttggctc attacccaca tgttgacaca aggaccacat tcttgtcacag attaccaca ctgtggctgc tatatccaca aggaccatt tagtgacaca attaccaca attgacata attgatgccac actccaagg attgcagtc ccatccaagg attggctact attgaatgat attgaatgat attgaatgat attgaataca ctataatccataataca attgaataca attgaataa	
aaaaaggtgc tttgaaaaggt tttgaaaaggc ttcaaatatct attctctccca gaaattcttt ttcaagaaat ataataataa ttctagatat tcgccctcat gacggcaaat tggcgcaaat tggcgcaaat acaacagcgc attatatgac ttgacgccat ttgacagccat tctttcccat tctttcccat tctttcccat tctttcccat tctttcccat tcatcatcc tgggcaa tcatcatcc acaacctggc ccatctccat tctttcccat tgggcaa tctttcccat tgggcaa tctttcccat tgggcaa tctttcccat tgggcaa tcatcatccat tgggcaa tctttccat tgacagccc tgggcaa tcatcatcat tcactgggcaa tcacacacac tcactgggcaa tcacacacac acacttcct accacacacac tcacttacat tcacacaacac tcacttacat ggtcaaggaac aataa	FLSLGSGCHH DLEKIEISON GIKHLPDVHK NGTQLDAVNL
cgagtcatco cagaattagaag gaaattagaag cttcocaaoc cacaagattc aagaatggga ggaccagtca gaaaacttga gaaaactgga gagtccagct gagtccagct gagtccagct gagtccagct gagtccagct gagtccagct gagtacagct gagtacagct gagtacagct gagtacagct gcaccagct gcaccagct gcaccaggata gtcctgacag ttcctgacag ttcctgacag ttcctgacag cccaacaccc cccatggata gtaccccca attctgcca attctgacag attctgacag	NP_000136.1 MALLLVSLLA IQKGAFSGFG NLQYLLISNT GIQEIHNCAF LKKLRARSTY
	Follicle Stimulating Hormone Receptor
	1681

Homo sapiens	Homo sapiens
WUDVTCSPKP DAENPCEDIM MCNILAFADIC IGIYILLIAS TAAITIERWHT ITHAMQIDCK DIDSPLSQLY UMSLIVLNVL DFLCMAPISF FAISASLKVP LSKCGCYEMQ AQIYRTETSS ccacaggcta tgacacgcac A tectcaccat ccagtctgg agctcacqtg caaagtcaca tectcacqtg caaagtcaca tectcacqtg caaagtcaca tectcacqtg caaagtcaca tectcacqtg caaagtcaca tectcacqtg caaagtcaca tectcacqtg catgagcgtg gcagcaggaa gaagatggta tectcacaggt catgagcgtg tectcactgccg tgccttgggc tgtctcggt tgtctcggt tgcttgggc tcttctccac tggacatctt tccatcctg tcttctcccta tggacatctt ctccatcctg tcttctcctgat tcacggcca aacagggtga actcggcca aacagggtga actcggcca aacagggtga ttctcttgat gatgtcgc tgagcagtaga ttctcttgat gatgtcgc ttgagat tttaaaatat ttttaaaatat tttaaaatat tttaaaatat tttaaatata tttaaatata tttaaatata tttaaatata tttaaatata tttaaatata ttttaaatata tttaaatata tttaaatata ttttaaatata ttttaaataga tttaaatata tttaaatatata tttaaatata tttaaatatata tttaaatatata tttaatatata tttaatatatata tttatatatatata tttatatatatata tttatatatatatat	
TEFDYDLCNE PASELSVYTL FASELSVYTL YMKVSICLPM AKRWAMILFT KNFRADFFIL HLAQN caggccaaga ctgtqggttg ccattgggtg agcatttct aacacccca ctggccttct aacacggcg ggcatgaga ggcatgggg agcatttct aacacccca cggaagac cggaagac atcttcaagt gaagacggagt gaagacggagt gaagacggagt ttttaagt ttttaaatt gttaaatta tttgaaatta tttgaaatta tttgaaatta tttgaaatta tttgaaatta tttgaaatta tttgaaatta	TVMCPNMPNK IVWVLTIPVW NTPSSRKWV GMELVSVVLG
SYSRGFDMTY INVLVILTTS GCDAAGFFTV ALFPIFGISS INVSSSSDTRI ANPFLYAIFT GSTYILVPIS GSTYILVPIS GSTYILVPIS GSTYILVPIS GSTYILVPIS GSTYILVPIS GSTYILVPIS GSTYILVPIS GSTYILVPIS GGSTGGG CCACCTCC GGTCGGCG GGTCGCGC GGTCGCGCG GGTCGCCCGGCGC GGTCGCCCGCGCG GGTCGCCCCGCGCCC GGTCGCCCCGCGCCC GGTCGCCCCGCGCCC GGTCGCCCCCCCC	
FESTLAEDNES  I NYAIDWOTGA  I WYAIDWOTGA  I WIYLTVRNDN  I HIYLTVRNDN  I HIYLTVRND  I HIYLTVRND  I HIYLTVRND  I HIYLTVRN  I HIYLTV	
VDYMTDARGO GYNILRYLIW VDIHTKSOYH VQLRHAASVM AFVVIGGCYI LITVSKAKIL TVHNTHPRNG gccaactcc gtggtcagtc gccactct gaccgctacc cacctcatct gaccgctacc cacctcatct gaccgctacc cacctacctga tttgccgttc gcgtccagtg tttgccgttc accaaatgat ttccttgcct accaaatgat tgggccctat gtgaaagagg tcatttggct tgtgcgtcag tgttcctga tgtgcgtcag tgttcctga tgtgcgtcag tgtgcgtcag tgtgcgtcag tgttcctga tgtgcgtcag tgttcctga tgtgcgtcag tgttcctga tgttcctga tgttcctga tgttcctga tgttcctga tgttcctga tgttcctga tgttcctga tgttcctga tgttcctga tgttcctga tgttcctga tgtttcctga tgtttcctga tgtttcctga tgtttcctga tgtttcctga tgtttcctga tgtttcctga tgtttcctga tgtttcctga tgtttcctga tgtttcctga tgtttcctga tgtttcctga tgtttcctga tgtttcctga tgtttcctga	
067784	AAA62370.1
G Protein- Coupled Receptor RDC1	G Protein- Coupled Receptor RDC1
1726	1726
123	124

	Homo
ETEYSALEQN	ggcgcggatt A ccgactctat aatcctgga ggcgcctgga gggcagtgcg gggccgggg gggtctttcca ccgggggcgggggggggg
TKLIDASRVS	acttctaagg cccctggcac gacgactcgg gtggcgctggg gctgcacagag gctggggaagg gcccctccg gccccgcggg gagccccccg gcccgcggg gagccccccg ctgggggaag ctggtggtgt gtgctgaatc gcgctgcca atcgtgaatc gcgtgaatc gcttctga gagatctca atcgtgaatc tgcttctga gagatctca atcgtgaatc tatggttgaatc tgcttctga gagatctca gcgaatagaac ttgctctga gagatctca gcgaatctca tgcttcaagt cgaatagaac ttgcttcaagt cgaatagaac ttgcttcaagt cgaatagaac ttgcttcaagt cgaatagaac ttgttcaagt cgaatagaaa ttttatttta
IFKYSAKTGL	agcacaccytg agcacaccytg acaccytggaag acagtgcact gaaagtcacc agaaagtcacc gaccctygc gaccytgaca gagctgacac catcytcacc agtgatcacc catcytcacc catcytcacc catcytcacc catcytcacc catcytcacc catgtcaaa gagttttcccy catgtcaaa agagtatcct agttttcca catgtcaaa catgtcaaa catgtcaaa catgtcaaa agagtatcct agttttcccy agagtatcct catgtcaaa catgtcaaa aaataaaaa aaataaaaa aaataaaca aatttattc
	gtctctgctc tctcagttgc aaaagagctc gaggaccagc gaggatccga gagatcctct accttctc accttctcc accttccgct tttgcgccgct agggaaacgc cccgccgct agggaaacgc cccgccgct agggcaacgc cccgccgct agggcaacgc agggcaacgc cccgccgct agggcaacgc cccgccgct agggcaacgc agggcaacgc ccaacctgtt ccttccagg cccacctgt ccaacctgt ccaacctgt agggcaacgc tcatcaacg agtggccacca agggcaacgc tcatcaacga agtggccccga agtggccccga agtggccccga agtggccccga agtggccacca agggcaacgc tcatcaaaga tcaggaaaga tactaaaaga tcaggaaaga tactaaaaga tactaaaaga tcaggaaaga tactaaaaga tactaaaaga tactaaaaga tactaaaaga tactaaaaga tactaaaaga tactaaaaga tactaaaaga tactaaaaga tactaaaaga tactaaaaga tactaaaaga tacttaaaaga tacttaaaaga tacttaaaaga tacttaaaaga tacttaaaaga tacttaaaaaga tacttaaaaga tacttaaaaga tacttaaaaga tacttaaaaaga tacttaaaaaga tacttaaaaga tacttaaaaaga tacttaaaaaga tacttaaaaaga tacttaaaaaa tacttaaaaaa tacttaaaaaaa tacttaaaaaa tacttaaaaaaa tacttaaaaaaaa
NPVLYSFINR 1	aatccgtcca tgttttcgcc gaagcctccc gggagtcgga gccttctctg gcggaaggaagga aaccgcagcc tgcagccggc tgcagccggc tgcagcagcc tcccgaaccc accggatccc tcccgaaccc aacctcagcg ttcggcatcg ttctgcatcg acctcagtg ggcgtgctgg ttcggcatcg ttctgcatcc atctgcaagt gcgtggtggg ttcggcacc ttcggcatcg tcccaggt tccgaaga tccaggtgg acctcaggt acctcaggt acctcaggt acctcaggt acctcaggt acctcaggt acctcaggt acctcaggtc acctcaggt acctcaggtc acctcaggtc acctcaggtc acctcaggtc acctcaggtc acctcaggtc acctaggac acctagac acctaggac accta
QCLSLVHCCV NPVLYSFINR NYRYELMKAF AK	atcccgctag tcagccgagc aaagccgagc aggaagcggaa agccagggaa agccagggaa agccagggaa agccagggc taaactcgca tgaactcgca aggcactcgc taaactcgca cggccctcc ggggcaagccg cttcgcgctg cttcacctc tcacctgctc agccatccc agccatccc ccttcacca ccatacca aacca ccatacca ccatacca ccatacca ccatacca ccatacca ccatacca ccatacca ccatacca accacatcatca ccatacca ccatacca accacatcatca ccatacca ccatacca ccatacca ccatacca ccatacca accacatcatca ccataca ccataca ccataca ccataca ccataca ccataca ccataca ccataca ccataca ccataca ccataca ccataca ccataca ccacaca ccacaca ccacaca ccacaca ccacaca ccacaca ccacaca ccacaca ccacaca ccacaca ccacaca ccacaca ccacaca ccacaca ccacaca ccacaca ccacaca ccacaca ccacacaca
	NM_001480
	Galanin Receptor GalRl

		144/440
	Homo sapiens	Homo sapiens
	ω	4
tagcgcacag aattcagtgt cctgtgaaac ggaagatgca gacaaaagtt agcgaggttg tcacatgaag attcaaaaaa ctttttcatt aaaaatgtta caattttata	· ·	gacaggcctg tccgatcctg gacaggctct ggagtgccag cttcgatatg ccctggtac cagtgatggc ttactcctt tgcggccatt ggcccttgcg gtactgcgtg cttggtgcc ggaggcccc gcagtgctgg catgacatc gcagtgctgg catgacatc gcagtgctgg catgacatc gcagtgctgg catgacatc gcagtgctgg catgacatc gcagtgctgg catgacatc gcagtgctgg catgacatc gcagtgctgg catgacatc gcagtgctgg catgacatc gcagtgctgg catgacatc
catttgcttc caattgtagc gtcggtttac ctcaggagtc cactgttgat tcaaatttat gagaccactg tcttaacagt gaaattttac attagtactt actagagatg aaaaaaaatc actagacaga attcagtaag tcatgtttga tttagatgac ctatcttgta caaatgcatg caccaaacat tatttcctct ttcaaaatgt attttcatga tgaaaatgt aaattcagt		caggactggg tgactacctc agagggcgga ggtaccgcag gtaacggcgga gtaacggtctgg gccagtgtgg gccagtgtgg gccagtgtggg tgttcaggcg tgttcaggcg tgctgggaacca ttgtgaacca ttgtgaacca ttgtgaacac tcctcaggctg tcctcaggctg tcctcaggctg ccccatcct tcctcagaacac cccccatcct cccccatcct ccccatcct ccccatcct ccccatcct ccccatcct ccccatcct ccccatcct ccgagaacac
·		tgaccaggag gcctcacga ctgctgctcc ggcctcgcct gccactgccc ttcgtcctcc tgtgagaacc caggtcatgt accttgagtt accttgagtt acgtcctaca ggccccaaca aggccccaaca aggccccaaca aggtcccaaca aggtcccaaca aggtcccaaca cttggcattc attatacgga cttggcattc
gcacaggtgg atgagataca cagtagtagg aacagagtca actggatttt agaccacaag aaagcatatt ctggggtatc tgaacatttc ccatttgaat		caggagcaag accettcgcc actgtgcggg gctgtaccag tgcacccaat ggctgcaggt catacacaa agacctgctc agacctgctc acctgactt tgcctgccgc gctggtggag ccacttccgc gctgtggag ccattcggc gctgtggag ccattcggc gctgtggag ccattcggc gctgtggag ccatttggtgg tatccgcatt ttaccgcatt tgcctgacgc gctgtggag ccatttggtgg tatccgcatt ttaccgcatt
aagtctgttt gcctgtcatt acctgggatg gagttaacaa tgagtaatga tcttgtacat gcctgtacat ctgatgttca aaaaccatca		
aggetttetg agetttggaa tgtactggtg tggetttata aataagttt ttattggga aateatggga aatettgea aatttgfaa		ggcagcgtg atcgcccctg aaggggcaga gagaccttgct ctgccttgct ctgccttgcc caatgggaccaaa cttagacaaact ctgtggaaact ctgtggaaact gtgggaagct ggtgcaaact gtgggaagct tgtggaagct ggggaagct ggggaagct ggggaagct ggggaagct ggggaagct ggggaagct ggggaagct ggggaagct ggggaagct ggggaagct ggggaagct ggggaaacg gagcgcaaacg ccctgctgg gagcgcaaacg ccctgctgg gaccaaacg ccctgctgg
	NP_001471.1	NM_000164
	Galanin Receptor GalRl	Gastric Inhibitory Polypeptide Receptor
	1762	1808
	126	127

140/440				
	Homo sapiens	Homo sapiens		
cggettgtcc ttactgctag actgcgtgcc gagttccac tctgggaggc catttgggg cttgggagaga gggagagaca agattcttag	AAAEPPSGLA P LWRDHTQCEN YIHINLFTSF YTWLLVEGVY EVKAIWWIIR GVHEVVFAPV	cagagtagta A cagagtaggt atttagagtt gacagaggtt aggcaaagag aagaagagt aggcagtttat gagtgcggatc gcagtttatg ttctgtacag agatggctat ggggtgtctg caatgaggaaa cttcaccca atcatcttg acccca atcatcttg acccca atcatcttg acccca atcatcttg accgtggaag acagtgctgg accgtggaag acagtgctgg accgtggaag acagtgctgg accgtggaag acagtgctgg accgtggaag acagtgctgg		
ccaccagccg agttggaaag ttgagtgcca cagaaaaaag cacaaaacat cctagggtgg tgaaagagat ggcaaaaggcc gacaaaaggcc gacaaaaggcc	RÝRRECQETL RQCGSDGWG LFRRLHCTRN IVTQYCVGAN YENTQCWERN RSTLTLVPLL SEIRRGWHHC	caggoccaaaa agaactgatg aacttattga tcaaaatagt ttattaaaga atcaatagtt ctccagtcac tgtcatccct gatcaagatc cctggcttac cctggcttac ccatccttat ccatccttat ccatcatga ccatccttat ccatcatga ccatcatata ccatcatata ccatcatata ccatcatata ccatcatata ccatcatata ccatcatata ccatcatata ccatcatata ccatcatata ccatcatata ccatcatata ccatcatacata		
ggcgaggtcc gccagccggg catgattta gtgaaggaaa agaccgtgaa gagaaagggg cgaaagagg cgatagcata aagtcagagc	TAGELYQRWE HHHVAAGFVL TLLLALLILS QALAACRTAQ VI FWVIVRYL RCRDYRLRLA LYCFINKEVQ LPGPGNEASR	ggggaaaatag ggaggtagaa tgttgttgtt agcaccagtg cagagtattt cggttgcaaa atctagagat acatcactct tcatttccaa cagcagcagt ttatacagct ttatacaagc gcctcaaagc gcctcaaagc tttctgacct cataccaca tctacgtcat tcagagta tcagagta tcagagta tcagagta tcagagta tcagagta tcagagta tcagagta tcagagta tcagagta tcagagta tcagagta tcagagta tcagagta tcagagta		
ctccggcccg tgggaatgag gttcagttag tggggaaatg tggggaaaa gaagggaagc taagccatcc taagccgaag aagtagaatt	QRAETGSKGQ RASCPWYLPW YTVGYSLSLA LGDQALALWN LLGWGAPALF LLSKLRTRQM SSFQGFLVSV PTSRGLSSGT	aagacgetgt agactagaat ggctaagttt aagccagagc tatatgtact catcttcact gggaaaaaaa cccaccgg ctcattggca ccagtggatg ccagtggatg ctgatccct tcggcagaca atgaagatct gaggccgtgt agctgtgcc tttctggtct agaggcgtgt agaggcgtgt agagacgtgt		
tgccctccgg tcccagggcc ccccgtgtct cggaggacgc gacaactgag gaatggttat aggtgacact aacaggattc gccttggccg ccaggggcacc	LRESTCGLLL WDYAAPNATA RLILERLQVM DRLLPRPGPY SEEGHFRYYL FLIFIRILGI FAKLGFEIFL LPSGSGPGEV	aatatcagga agggagactc gcctttttgt ggtcatgtga atagttagta atcttatctt		
ttccggggccc tcggggaccc ggggcgggat aggcccagta ttctggagat acacgctatg gtctccaagg agagctggag aagaagtggg	MTTSPILQLL CNGSFDMYVC PEKNEAFLDQ MLRAAAILSR LHSLLVLVGG TPILMTILIN TEEQARGALR	aactgcagcc ttaattctaa gtattgcact tttgaatacc cccggcatag atctaaggga ttctgaactt tccccgtgaa gggttatcat tccccgtgaa gggttatcat tccccgtgaa tccccgtgaa tccccgtgaa tccccgtgaa tccccgtgaa tccccaggc tcccaggc tccagg tccaggc tccaggc tccaggc tccaggc tccaggc tccaggc tccaggc tccagg		
	NP_000155.1	NM_005314		
	Gastric Inhibitory Polypeptide Receptor	Gastrin- Releasing Peptide Receptor		
	1808			
	_	_		

Homo sapiens	Homo sapiens	
ctgagcaaga atcatccggt aacccctccg tagattgacc ccttgcatcc gtaggtgggg ILIGLIGNIT P IGCKLIPFIQ LAIPEAVFSD YFIAKNLIQS	TGRSTTCMTS  gggggcttcc A cagctgcgag aatcactctt ggtcctggga agtcagcgac gggcacattc tgtgagtgtg. ccgaccactg ccgaccactg ccgaccactg ccgaccactg cagtggcct cttggtccgta cttagggcct cttggtccgta cttagggctt cgacaggcct ctaggtccgta cttagggctt cgacaggcct ctagggctt cgacaggcct cagggctt cagggctt cagggctct cagggctct cagggctct cagggctct cagggctct cagggctct cagggctct cagggctct caggactac caggactct caggactac caggactct	
cctctacctg gcctggcctg caagagtacc gcggtatgtc agacaggaac cctgagtggt agaagc YVIPAVYGVI YLADRWLFGR AAFIWIISML IPLSIISVYY	OPGLIIRSHS  gacccgggcc tigggcattag tcatcatcgt tctcactggc ccaatctcat tgggggtgtc gcgatctcat tgggggtgtc gcgccatctg tgattgtagc tcgtgcaacc tcggccatcgg acagtgcaacc tcggccatcgg tgttgctggc cgggatcggc tgttgctggt cgtggcgcc tcatcactt accgtcgctc acagtgaccg gagctcgcc ccaggctcact gagctcgcc tcattcactt accgtcgctcac tcattcactt accgtcgccc ccaggcttag accgtcgctcac tcattcactt accgtcgccc ccaggcttag acctacccg acaactgacac acaactgacac ccaggcttag accgtcgctc ccaggcttag acaactgacac ccaggcttag acctcactt	
accettige tetgitiges tgaceteset tetgiteacga ettiatgget teagaatget atattitgaa NDDWSHPGIL ATANVDASR SMASFLVFYV		- C- Guanant
tcctgcgtga actcagctgc acaactgca aatggaaaca gacggttttg caaagagcct gatcaccatt ISSHSADLPV SSHSADLPV AIVRPMDIQAL AIVRPMDIQAL	ALVILSKSFR CEGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	
cttcaccaac acagttcaac tggaaggagt tagcctcatc cccctgagg ctgtgcctc ccaatgatg LEVDHFMHCN MRNVPNLFS LTALSADRYK GTFISCAPRYK	AFTINSCUNPE FESTINSCUNPE CESTINSCUNPE CESTINSCUNPE CECTOSTICA CECTOSTICA CESTINSCUNPE CESTINSCUN	6
gcctcctggc gtttcaggaa ctcacagcac tggccacctt cttgattttg attgttgtgt gtggggaggc MALNDCFLIN LIKIFCTVKS LINIFCTVKS	LKSTSICARLI LKSTSICARLI LKSTSICARLI LKSTSICARLI LGGGGGCGC CCCCCCCCGCGG CCGGGGGGG CCCCGCGGGG ACCCGGCGGG CCGGGGGGGG	
NP_005305.1	MM_000731	
Gastrin- Releasing Peptide Receptor	Cholecystoki NM_000731 nin B Receptor	
1813	1814	
30	31	

Homo sapiens	Homo
ctgcctctca cacacataga ttaatggcac caggactgac tctgggatgc tcctagtttg gaaaatacca tcaggcctaa tctcatacct gttcttcatc cctttccagt taaggacgt ttcaagaaat aataaattgt ttggcttcct aaaaaaaaa aggaattcc SSSVGNLSCE PPRIRGAGTR ELELAIRITL P AFLLSLAVSD LLLAVACMPF TLLPNLMGTF ERYSAICRPL QARVWQTRSH AARVIVATWL SARVRQTWSV LLLLLEFIP GVWAVAYGL GAVHQNGRCR PETGAVGEDS DGCYVQLPRS VVRMLLVIVV LFFLCWLPVY SANTWRAFDG CFMHRRFRQA CLETCARCCP RPPRARPRAL	caccggcgcc cgacccgage gegeceagag A aggaccgrage gegecetgag getecaaaggg accaaaggg cagacctgag getecaaaggg cagagactg cattgcccca gtgtgcagcc cagaggcatg ceccetgcc agccacaaggg ctgccagcca cagtgtcacc acaacctgag caacaggacc cagtgtcacc acaacctgag caacagagac cagtgtcacc acaacctgag cactcctgc cectggtacc tgccttggca gagatgcgg cccagtgc cagtggatg gcgaggagat cagtggtgg cagatggatg acacagtggg cagatggatg acacagtggg cagatggtgg acctagcaa acctgctgc atctggcag acctggtgggg gctcagcaa gaattggcga tcctggtgggggggggg
gaactctgac aagggctgac ctagagactatg gagcctggca cggaccttccc aatcagcact gggctgttctg cactgaaaag gttctccttcct tcccaaactg ttaaaaaaaaa aaaaaaaa agGTGFGFGAS LCRFGAPLIN StGNMLIIVVLG ISRRLRTVTN ALSYLWGVSVSV STLSLVAIAL EFFGDSDSDSQ SRVRNQGGLP GAFGGSGSRP TQAKLLAKKR VISLSKLXTT ISTLGFG	gacgageggt acceccegage cccactggcc gtacacacac gtacacacac gctagetgcc agtggaaget agetggtgtg ccacggccaa tcgtgttcaa ggcgtgatgc ccagatgta ccatcacac atggctget tcgtggcacac tcgtggcacac tcgtggcacac tcgtggcacac tcgtggcacac tcgtggcacac tcgtggcacac tcgtggcacac tcgtggcacac tcgtggcacac tcgtggacacac tcgtggacacac tcgtggacacac tcctgatga tcctgatga tcctgatga tccttgat gaaccagcaa tccttgat tccttagt tcctagt tcttccttagt tccttagt
tacacagtgg tgattgtttt acctcacagt ctgaccaaca ggcctgccc cctgaaaaa 1 MELIKINRSV YAVIFIMSVG IFGTVICKAV LSGLIMVPYP ISRELYLGLR RPALELTALT PGAHFALSGA	gatctigg gaagacttag gaagacttcag tcagcttcag accettgcag gatggacttc cctgctgccc gccggacacc ccacaaagtg tgaggtccag tgaggtccag gatgtcatg cagctccgtg ggtgttcatg cagctccgtg ggtgttcatg cagctccgtg gatgttcatg cctgcacac ggtgtcacag ggtgttcatg cctgcacac ggtgtccag gacctcag gacgacaca gacctcag gacctcag gacgacaca gacctcag gacgacaca gacctcag gacgacaca gacctcag gacgacaca gacctcag gacgacaca gacctcag gacgacaca gacctcag gacgacaca gacctcag gacgacaca gacctcag gacgacaca gacctcag gacgacaca gacctcag gacgacaca gacctcag gacgacacaca gacctcag gacgacacaca gacctcag gacgacacaca gacctcag gacgacacaca gacctcag gacgacacaca gacctcag gacgacacaca gacctcag gacctcag gacctcag gacctcag gacctcag gacctcag gacctcag gacctcag gacctcag gacctcag gacctcag gacctcag gacctcag gacctcacacac gacctcacacac gacctcacacac gacctcag gacctcacacac gacctcacacac gacctcacacac gacctcacacac gacctcacacac gacctcacacac gacctcacacac gacctcacacac gacctcacacacac gacctcacacac gacctcacacacac gacctcacacacac gacctcacacacacacacacacacacacacacacacacac
Cholecystoki NP_000722. nin B Recepto <i>r</i>	NM_000160
	Receptor Receptor
132 1814	133 1834

Номо sapiens	Homo
Ωι	<b>«</b>
tagggctgga gaggctgga gtctgcgaga gaggagtcca tgtcggcacg cgtg cgt	atggttatoc gtatatgcaa cttataagga atgagtcaga agaaatctc agtagtgaga gggctggatg taaatacaa ataaatgaac tgtaactgoc attaactaca atgaaactaca atgaaactaca agcaactaca ttacataca agcaactaca agcaactaca ttacataca agcaactaca agcaactaca
gagaccccct ggaccccagc acgcccagct cagtgtggct gagtgagca tcccacgta accacgta acccac accacgta accac accac accac	
ttcatctgcg aacctgctg ccagaactgg ccccacccc ccctggtgca gtgccatg taaagagct FLEEWWLYG VQRRVEVFRC SVSTWLSDGA GWGAPMLFVV AKLRARQMH FQGLLVAVLY GRGGGSODSS	•
gcagccagga gcccttctg gctggacaac ccccacctac cctgccttgt cctgcaacaa pQVPSAQWD CPWYLPWHHK FQVMYTVGYS RYSQXIGDDL RSFFSLYIGI IFVRIVQLLV IFVEDLELS KGFPSKELOF	aaacacttt tatggccctg aaaattttat aatagggat tatagtgaca gagacagcca tatagtgaca gagacagcca tacaatattta agtcaaata cttgttggca tcctaaca tcctaacat tactaacata tcagtcaagat tcagtcaagat tcagtcaagat tcagtcaagat tcaatttgtt gagtttttaat gaattttaat gaattttaatt gacagaacac atatcattgtt gacagaacac atatcattgtt
aggggtggtg ttggctgaga cagaggcgtc caacagcagc tctccctgca gggggctgtg atggaaatgt LILILILIACQ TEANTTANIS QKEVAKMYSS VLVIDGLLRT NLLGLATLRE EHAQGTLRSA SNHRASSSPG	gtccacttac atttcaagca gttcttcaaga gatgtaggta actctatata attctggaca caagattcag aacacttatc acttatata aggacaca aggacaca aggacaca aggacaca aggacaca aggacaca aggacaca aggacaca aggacaca aggacaca aggacacaca aggacacaca aggacacaca aggacacaca aggacacaca acagaacaca acagaacaca aggacacaca aggacacaca acagaacaca acagaacaca acagaacacaca acagaacacaca acagaacacaca acagaacacaca acagaacacaca acagaacacacac
gcagtttggg cctcctaga ctctggcacc gcgggggagc ttgggcctcc gggcgggagt tcccatgtgc MPPCQPQRPL TFDKYSCWPD CQMDGEIEV FASFVLKASS MLLVEGLYLH HEVVEGENT GKVLWER	tiggitigetg tgittigte acttattata acttagitti ttecettgat gaagetggta ctaagetggta atgittgigt gtaaccatti cagaagaaa teggetggat teggetggat teggetggat aagaagaaa aagaagaa teggetgetg taacttagat taacttagat taacttaage attgattet atgittegat taacttaage attgatteta atgatteta atgatteta taacttaage attgatteta taacttaage attgatteta taacttaage attgatteta taacttaage attgatteta taacttaage attgatteta cagtgitega ttgaagtetet taacttaage attgatteta cagtgitega ttgaagtetet taacttaage attgatteta ttgaagtetetet ttgaagtetetet ttgaagtetetet ttgaagtetetet ttgaagtetetet ttgaagtetetet ttgaagtetetet ttgaagtetetet ttgaagtetetet ttgaagtetetet ttgaagtetetet ttgaagtetetet ttgaagtetetet ttgaagtetetet ttgaagtetetet ttgaagtetetet ttgaagtetetet ttgaagtetetetet ttgaagtetetetet ttgaagtetetetet ttgaagtetetetetetetetetetetetetetetetete
NP_000151.1	MM_0000406
Glucagon Receptor	Gonadotropin NM_000406 -Releasing Hormone Receptor
1834	1925
134	135

Ното	sapiens	Homosapiens
acaaaatttg catgacttt tcatgccatca ggaaagatcc tctttcttgt agaatgaagc atgccactgg aaagttctca atcacctgg gtcggacagt ttatacatct caatgtgtaa accttcagc aacctcagc aacatctcagc aacatgtgtaa atcttcaacc aagaacaata tcattcaacc aagaacaata tcattcactg		cagctatgag A aggccccttc tgtctggatg caccatgaag cgctgacctg ctacttcgtg gatcacaggt gccctttggc gatctggag gtcttacatg ctgctacctc atccccag ctgcttctgc
tatctcaggg agaaataaaa aaggcttgaa aaatcactgt ctttaatgct aaagctctca tctgattgtc gttactctgc gttactctgc gatggtggtg aagttttctct taactttttc taactttttc taactttttc tgaataagtca attgccact gtttgatcat tgattgatcat tgattgatcat tgattgatcat tgattgatcat tgattgatcat tgattgatcat	WNITVQWYAG GLAWILSSVF IIPLFIMLIC TPYYVLGIWY	atccgcagga actccaccag tgctggcggc acctggcggt aggtctatgg ccctgtgtgg tggtctgcaa ccttctcctg actggcccca actggcccca tcatcgtgct aagagtctga tcctggcatta
tcacattaag taaagaagaca aacagaaaca tccccactct tctctgcgac agaaagggaa tgttggagac atgctggaga cagccttcat ctttgaaaag gtgtttgc gacagacaaa aagcattta tgacagttgc tttggtattg tctttcttt tggacg		gcaggccgcc accaacagca tgggtgtacc aatgggcttg atcctggtga gttgtgaacc tacaccgtct agatggatgg gtgggcattg tggagcaggt agctcgtacc cactcagca aagcagcaga gtggtgacg
ctttgatctt cgtttccatc atcagatgca cagggcaacc ctttttctgc cagaagaaag ttagccaacc gtccaatggt atgtatgccc aggcccctag atctcagta acctccacg gacacctct tggtggcatc ttggtggcatc ttggtggcatc ttggtggcatc ttgttgcacaga acctctaaaaa gtccttaaaaa gtccttaaaaa gtccttaaaaa attctttctct		ccaaaggete cttcacctac cgctcccaga gctgaactgg cactatcage cctggaggge ttcctggagge ttcctggagge gctggccate catctttggt gttcagcgge catctttggt gttcagcgge catctttggt gttcagcgge catctttggt gttcagcgge catctttggt gttcagcgge
acaagttaac acaataaaat ggcaaacagt cccactgatg tactttcttc gaagtggaca acatctgacc gaacattaca gcttttctcc ggctatcacg tcatctagca tcatctagca tatctcataa acgtcataa accataa acgtcataa accaa accaa accaa acgtcataa acgtcataa accaa accaa acgtcataa acgtcataa acgtcataa acgtcataa acgtcataa acc		agtggagcct agtccagcat tcattgcatc tgcgcaccc tcattgcatg tcattgcag ctatgtgtgt tggccatcat ttgatgcca cagcccag gccagacgt tggccatcag tggccatcag tggccatcag tggccatcag tggccatcag aggcagtgc
aatacacaaa acatacgtct agattcggtt gggaaaata tgaaacttca tgaaacttca tgctcttaaa atgggatgtg gttatctaaa accgctccct ccatggttgg tcaggatgat gacactgcag tcaggatgat taccaagagc taccaagagc ttgccact tgacacgggt taccaagagc ttgatccact		atggcccagc gaaggcccga atctttgtgg ttcaagaagc gcagagaccg ctgggccacc ctctggtctc atgtgagat gctgtgtgga attgtcctca caagtgtggga atgtcccca caagtgtggca
		NM_000513
Gonadotropin NP 00039"	-Releasing Hormone Receptor	Opsin, green- sensitive
1925		1945
136		137

Homo sapiens	Homo sapiens	Homo sapiens Homo	saptens
	cgacctggac A cttcccgcg tatcgctggc caccaacctc cctggacctc actcttccaa gagcgtcgag ggggcgggtg catcttcgtg gtgccccc cagcatcttc gaagctgtgg ccacaagcaa	VALEVVGIAG P FGDLLCKLFQ AFCSAGPIEV LYSLIGRKLW catggaccgc A	attgggccac ctgtctacaa tgggctgctg tttcttctct ctggtctgag tgaggaggaa tattgtagcc ccggaactac
ccactatcta tgcagctttt aggtctcatc EGPNYHIAPR AETVIASTIS NVREDAKLAI IVLMVTCCIT WGPYAFFACF	tcacactggc tgctgcagct tcgtggtggg tgcgcaccac tctgcatgca tcacagcgct tcacagcgct tggtcaccaa gcgccgggcc agcaccaacga aggaccaacga tgtgggtgtc tcatcggcag gggaccagaa tttctctcgc		taccgaccgt atgagagtgc cgacctggga cctgcccgga ctatcactgg agctgctggc atagcatctc tccactgccc gacgtgtgtt
	gggttcaacc ggcgacgagc gtggcactet ttcggcgagc ctcatctcc ttcggcgacc ggccaaggtgg gccttctgca gacccttggg acggtacatgg ctctacatgg ccctcgcagg		ttgagcccgt ctgagagagg ggctgcctg gtcaccctcc cgggattgta gtgcctctgg accgtgggcc ctcaggaggc
ggccttctt gcagttcga ctccagcgcc DSTQSSIFTY FKKLRHPLNW LWSLAIISWE TSCGPDVFSG KAEKEVTRWV IYVFMNRQFR	cgaagagccg cgactcgctg agcactcgc ggtgtcgcgc ctccgatctg gcactcggac ccacgccacg		cttctgcgtg catcacccag caccaccctg tggcgagtgg ggctgtgaaa ggcttgcct gattatctac cctggttgct
ctgccctgcc ttatgaaccg gctctgaact catga AGRHPQDSYE NGLVLAATMK YTVSLCGITG WSRYWPHGLK KQQKESESTQ AKSATIYNPV	cgacgcccag ccccggcaa cgggcgtcac ccatgctggt gcatggcctt ggcatgcct tcttcgtcat tcttcgtcat tcttcgtcat tcgagcacga cggtgcgctc ttgtcttct gcggtgcgctc ttgtcttct tggagcacga cggtgcgctc tgctgcttct tggagcacga		gggcccacgt aatgtgactt agatgcccaa cggcaggctc cagagtcagg cttaccctgt ccacagtgaa ccacagtgaa ccatcaccat
cctttgatgg atctatgtct gttgacgatg gtatcgcctg MAQQWSLQRL IFVVIASVET LGHPMCVLEG AVWTAPPIFG QVWLAIRAVA PLMAALPAFF VSPA	atgtggaacg tgggatgctt ccgctgctgg aacctgtcca ttcgtcagtg cgctacttcg aagctggtca ctagtcgggg accgagtgg ttcttcttc cggaggaga accgtagaaa		cggatgtggg atgcacccag gcagcagagg tgctggccaa cacttcagct ccctttccac tcttacttct ctcttacttct ctcttagtgg
NP_000504.1	NM_004122	NP_004113.1	
Opsin, green- sensitive	Growth Hormone Secretagogue Receptor	Growth Hormone Secretagogue Receptor Growth	Hormone- Releasing Hormone Receptor
1945	1951	1951	
138	139	140	

Homo sapiens	Homo sapiens
ct tctccactgt tctatgcaag ct tcagctggct gttggcagaa ca gctcaaggag agccttctgg ca ctggcacgtg ggtgagctgc cg acactcccc ctactggtgg ct ttgggctttt tctcaatatt ca gcctccatac ccagtctcag ac tctttggaat tcactacatc cc gcctccccct ggagctggga ct gcttcctcaa ccaagaggtg tg agcttctgc agcctggagg aa aggtgctgac actatgtgc tt tgggcagcta ccacgggtct cc agcttctctcc agcctggagg tc tttgaggcagcta ccacgggtct cc agcttctctt actggggcct tc tgggcagcta ccacgggtct ccattcctct actggggcct tc tttgaggaaaa aaaaaa SA CLQAAEEMPN TTLGCPATWD P TG WSEPFPPYPV ACPVPLELLA TG WSEPFPPYPV ACPVPLELLA TG WSEPFPYPV ACPVPLELLA TG WSEPFPYPV LASYSVNFGLF TH AWTIRGPIV LSVGVNFGLF GI HYIIFNFLPD NAGLGIRLPL LP AWRTRAKWTT PSRSAAKVLT	aa gaccttcaat tacagagata A ag ataacagact gaggagtgag tig geggetgete tttegecaat tig tgtgagggca acaagaccactg gagcagtact gettggtcac gt gagcggaage tecacactgt tg atcgtgggtg cegtegtcat ca etgggcegte etetetgeet ca ettteagtg tettcatect gg tacettaagt atcgtacca atttetetgt gggttattec tettttetgt gggttattec tg gecagaagg acaagtgtga et gecatcatca acttetacet ac gecatcatca acttetacet ac aaggeegtac gacaacactg te teagaaagta agetagaggeeiag tetecetgga
rega cgacactgac cactgcaget seca tttcgccacc atgaccaact sect cctggctcc acctcccca set ggggctgcc gtgctcttca reat ggggctgcc gtgctcttca rgt cctctggtc ggggtgaact igt cctctggtc ggggtgaact igt cattgttgcc atcagggca ggta actggagcca gctcagggca cattgttgcc atcctctact ggaa gtggcatggc ctgggcatcc set cattgttgcc atcctctact ggaa gtggcatggc ctgggcatcc sec cattgttgcc atcctctact gca ctggagtcca acctcact gca ctggagtcca acctcact gcc tgtctctgca tcgactct gcc tgtcttgca tcgactctc ggtc cctctgtgtc tgctctat gcc tgtcttgca tcgccctact gcc tgtcttgca tcgccctact gcc tgtcttgca tcgccctc icc tgtcttgca accaccc scc tgtcttgca tcgccctct gcc tgtcttgca tcgccctgc gcc tgtcttgca tcgccctgc gcc tgtcttgca tcgccctgc gcc tgtcttgca tcgccctgc gcc tgtcttgca tcgccccc gcc tgtcttgca tcgccctgc gcc tgtcttgca tcgccctgc gcc tgtcttgca tcgcccctgc gcc tcgcgcgca tcgccccc gcc tgtcttgca tcgcccccc gcc tgtcttgca tcgcccccc gcc tcgcccccccc gcc tcctgtgcc tcgcccccc gcc tgccccccccc gcc tcccccccccc	attt aagaagccca tcatggagaa gaac aagttaacac tagatggcag cat gcctcttaga agacaagatg ttga tgcccttggt ggtggtcctg ttgg tgctgtatgc cgtacggagt gtca gcctctcggt ggcggacttg tca gcctctcggt ggcggacttg acc tgctcatgtc caagtggtca gact tgtggccag cacagcgtcc cgct ctgtccagca gcccctcagg acca ttctgggggc ctggtttctc act tcatgcagca gacctcggtg ftca ctgtcatgc caagtgtcat acca tcatgcagca gacctcggtg ftca ctgttcatgc caagatctac act ggttctatgc caagatctac atca ataggtcct cccttccttc
gctgccttt tccacagcga gtctctgtgg ccgctccca gccgtctacc tgaactgcct tggctggtc tcgctggctg aaactggcct tcgaggacat atcatcaaag ggcccattgt atcgcatcc tggtgaggaa tattggcgtc tctccaagtc atcttcaact tcctgccaga ctgggttcct tcctacggaa acccgtgcta agtggaccac taggctgct atcacgcca gcatgctct ggaggaccac taggctgct ggaggaccac taggctgct catcacgcca gcatgctct ggaggaccac taggctccta actcacgcca gcatgctct ggaggaccac taggctccta catcacgcca taggctcctag cctactggc ggggctctag cctactggc tacctctgac ttctgtggtc ggggctctag cccaaggctc tacctctgac ttctgtggtc ggggctctag cccaaggctc tacctctag cccaaggctc tacctctag cccaaggctc ADLCWPTAGS GEWVILFCFD EEESYFSTVK IIYVGGSIHT INIINIVRK IEPAQGSLHT ELGLGSFQGF IVAILYCFIN	
Growth NP_000814 Hormone- Releasing Hormone Receptor	Histamine H1 NM_000861 Receptor
142 1954	143 2120

gaagagacac aatggagctg ctcttctgag ctgccttatt cacccatcat tcctcaaaag ggaatggggg cacaacacc tcagcaaggt cagatcctct cttttggccg gcagatcatt ctactaaaaa gggaggccga tcacgccact caatatttta gagtggtggc tgcacctacg tgtgtttgtc aaagacatag attttaaagc ctaaaatatg aagcagaatc aataataaa aactatggga ggggtcacct tctctcgaac gtgggtctaa caagacagta gttttatcat ttgccttctg acatcaactc cattcaagag gatccttatg aggcaccata aaacccccaa acaaactcta gcagggacta tgaacacaca acctgggctt atttaagccc gcagcttgca aaattgaggt aaaatgtgcc tgagccaaga gtacaagctg ttttacctgc aaattgagga gcaacaaat ccaggcaggc gaaagttctt tttgaggagg attgacaact cctggaaatt attaaaagaa agttagagta gctgaggtgg ccacttactt aaaaaaata gtattcccaa ggagttcccg aaaaactagt tgtgatttat tcaccatccc agagaagtag gaggggagta gagcagggcc agccaatcct cgctcgcatt aaacagttgg ttcatggtca tggctgggct ttcaagaaga aaaagaaaa gctcctcagg gccctcctgg tccccttcca cagaaaactt gcaaaaggca aaccttgtct tgagttctgt gcagaggagc ccgaaaggca gcctgtagtc ctgtctcaaa cctggtaagc agtgagatat caatgagaac actgggttca tctgaaccac aaaagtggtg cacgttaaaa tatgtgagaa atgttgagag aatatggaga gaggttgccg cacatacacg tttttatctq tggagtgcct aggcaaaggc gaagaggete gaaggccgcc tttcatcttc gttcaccatc ctgagggat ctgtgtgttg gagattgaac gaactctcct gagtcaagtg ggactcttga atagttgctg agaaaattat ggtttatctc cagctgacat gcaatctggt tgtcttgaag gttaggtgat tggtagtttg tatcccttct agaggatgat ggctgcggca caagacagat ggtggggcat gtggtggatc tcttcagcca agacagcacc agtttacttg accettgtg ggacgaaggc cttaggggct gatcagcaga gtttcttgta gacctgggtg caagctttcc gaattgaaa atccatgcca ccacaggggc agaaccagtg tagagtggat tggctattaa tgaatggttg ggctgtacta actctagttt catagctagt catattttct taatcccagc cagtctggcc ccgggaggtg gagcaagact tgcacagata agtagacgaa accaagtgca catagccata tgtttatgtt gtatagcaca gatctgtcaa tgcacatgca aggatcagat accgcgaaag ggatccctta atttgcacat aagggaggct atggccagct cagagacttt agctttctcc tegettgaac ctttgaagga ttttacttgg accacaatat ctcttgcat aaagatgctg aaccggagcc gagatatcag ttgcacatga tgcaatgaac ccctcatct attcgctcct aggaaataga aaaccacagt agatggcggt agtcagacct gagagaatca cattgtaatt ttccactgga gacagctgtt caaacatgtt aaatttcctt gaaatattt tatttttgag taattttcta cccaaggtca cttattgtag ctcaagccta agttcaagac atctgggcat ctgggcaaca ctcttaagtg gatatgtttg tqtaatcttt tccccagttg cttgatattg accaccacag gattacatca atcctctgct tttgtgttc cctctttaac ggggtttcag ggcacgagaa gcactccagc aaaagtcat gaacatgtag ttggtgctaa ggcagccttc atqtccaaca tttgcaagaa gtggctaggg atttcttact ctttaaccc aaagagaaat cacaggaggg ggcatggtag cacaaaatt acaatgtgcc agctcaaaat gaagggacd aaggaagcca ggagatgaaa ctdctttcca tgtagccgtc tggggccagc ggactcagat cacaggcctg tgtatctggg caagaactgt cacactgaac aattctgcat tctggaatcc gaagaacagc ataaaagaga gcctcagact tataactgtg tgagaggcat cagaatgcca gagagagta tgaggccagg

Homo sapiens	Homo
gcatactcta tgtgatttat ttatttctac ctttctgagt ctcttggact tttgaaatgt accatcaaat gttaacagag tttgatatgg gctttctctt tcacatttgt aaatgtcttt tcaaaaggat ttactttttg taaaaagctt ctgctttgca tccccaaac ttcttgttca aaacgggggg agtttaggag cggtttcaga agctgcagct ggtctgttc caggtcagaa accattgttc cctgtgagag agttgctct cagggtccct caggaccaaa gaacactcga tcacacagac aagtggctca gtgtccatta tttaccttga acaatcaagg agagaactga tgtgagctc EDKMCEGNKT TWASPQLMPL VVVLSTICLV TVGLNLLVLY AVRSERKLHT P VADLIVGAVV MPMNILYLLM SKWSLGRPLC LFWLSMDYVA STASIFSVFI QPLRYLKYRT TTRASAJIG AWFLSFLWVI PILGWNHFMQ QTSVRREDKC KVWTALINFY LPTLLMLWFY AKIYKAVRQH CQHRELINRS LPSFSEIKLR PGKESPWEVL KRKPKDAGGG SVLKSPSQTP KEMKSPVVFS QEDDREVDKL QAAAEGSSRD YVAVNRSHGQ LKTDEQGLNT HGASEISEDQ MLGDSQSFSR PGKGKLRSGS NTGLDYIKFT WKRLRSHSRQ YVSGLHMNRE RKAARQLGFI YFIFFWVIAF CKNCCNEHLH MFTIWLGYIN STLNPLIYPL CNENFKKTFK	ccactgactc cagagaggat acagetgcgt etcacatga eccatectge agecagett acagetgcgt etcacatga eccatectge agecagetgct tegaatcta tgcaaaact gggaagegga acgettgcg gacgetggg accepteggg accepteggg acceptegg gacggaggt etcactgggg accepteggg accepteggg accepteggg ecctggagtt ettaattat tectagaaaa aaaaaaaaa aaaactggac eatteattcc caaceccetg eccaaaaaaa aaaaaaaaa aaaactggac acatttgga gettggagtcg ettggagtcg eatggtgggggggggggggggggggggggggggggggg
atgtttaaaa aagaagatgt cattctcact actttatcact agaagacctc aaagagcact caactagtg MSLPNSSCLL VGNLYIVSLS LCIDRYRSVQ ETDFYDVTWF PENPKGDAKK YCFPLDIVHM TDSDTTTETA MAAFILCWIP RILHIRS	ctectgeect tyggaageagg atgacaccaa gacctaccec tgatccatga caaccette tetgttygga gcaaccaggg acagccette acagcectect acagcectect acagcectect acagcectect tttggcaagg attettaace taccetgtge tccattacce aagggcaate gatgggcate tccattacce aagggcaate gatgggcate tccattacce aagggcaate gatgggctgg ttcaaggteg ttcaaggteg ttcaaggteg tccattacce aagggcaate gatgggctgg ttcaaggteg ttcaaggteg ttcaaggteg acatcaggg
Histamine H1 NP_000852.1 Receptor	Histamine H2 NM_022304 Receptor
2120	2121
144	145

aggotggoca accgcaactc ccacaaaact tototgaggt ccaacgcotc tcagotgtoc

Homo sapiens	Homo	Homo sapiens	Ношо
ccctgaagct ccaggtgtgg ggtaatagcc ctagccattg ggaatgatta aggaagctgc gagcactttg taaacaccct gctccctttt aaaaggagca LAVGINRRIR NITNCFIVSL P LCTASIINLF MISLDRYCAV RNETSKGNHT TSKCKVQVNE SWKAATIREH KATVTLAAVM SALNPILYAA INRDFRTGYQ		ag SAGSEDAQLE PAHISPAIPV P SAGSEDAQLE PAHISPAIPV P CHPVKALDFR TPLKAKINI WWDLFMKICV FIFAFVIPVL AVEVVCWTPI HIFILVEALG FRDFCFPLKM RMERQSTSRV	gaagctgctg ctgctgctgc A
gaagagaac gccacagaca gctactgatg aactcttcat gtagaactta ccgcacagct ITVAGNVVVC CNIYTSLDVM FLSIHLGWNS DQAKRINHIS AIVLWLGYAN	gatetteege cagegeetgg cteegtagtg atacacaaag tttagttact tggggatgtg cttcaccttg tttggattg tttggattg tgtcattgtg gaagatetgc cacetgatg cacetgatg cacetgatg tegeacte tegeactec cacetgatg tegeactec cacetgatg cacetgatg tegeactec cacetgatg tegeactec cacetgatg tegeactec cacetgatg tegeactec tegeacetg	CCCCGGCCCCGCCCCCGCCCCCCCCCCCCCCCCCCCCC	tgcagctgct
		a caycccayya g tcgtggggaat A CLPPNSSAWF Y WMFTSIFTLT K VREDVDVIEC S GSREKDRNLR Y TNSSLNPILY	g ttctcggcgc
		a gratgactag e gratgactag f evgrochsby L ckivisiby G isAivleGTK I lalksvalls S syyecialgy L rdidgmvrev	t gaagcagcgg
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	NM_000912	NP_000903.3	NM_000233
Histamine H2 NP_071640. Receptor	Opioid Receptor, kappa 1 (OPRK1)	Opioid Receptor, kappa 1 (OPRK1)	Luteinizing
	2783	2783	2964
146	147	148	149

agccgccgct	gccacgagcg	ctgcgcgagg	cgctctgccc	tgagccctgc	aactgcgtgc
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ctatgttgcc	ccttgtcggt	gtcagcaatt	acatgaaggt	cagtatttgc	ttccccatgg
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agtgttaact	gttacatcag	taactgcatt	attgaattgt	tcttaaacct	gtaàaaaaa
attacctgta	ccagtaattt	taacataaag	ggttggattt	aggaaattat	ttatttttag
gtacattagg	caagagacct	ctacctagta	gaaagtgtag	tctatgacca	ctgccacacg
taaaaactat	ttgtcattgt	tacatggcat	Ø	ttgagagtgt	ttagaaattt
ttatagaaat	tttgacacag	taattttgtt	tgat	tttaaaaaac	agaggaggta
ttttgcatat	cttttttca	ttttcgtaat	ttgtattgca	ttctataaaa	atattagttc
ataacagatc	agaaatttaa	aataaggggc	tttttcctca	ggtagtttga	aaaacacact

Hormone/Chor iogonadotrop in Receptor

Ното	sapiens	Homo sapiens
gtggctaaat taaaattaaa agttctcaat ggctacgtca ggcagcacag acacagaata gacttttatg tatgccctat agcacattc agcctatttg gytaggaacc ctgtctcagt tggtacacta caaatgtgct acaattttc cggcc	SELLIQUEM LANGERER SELLIQUEM LANGERER ATGRETALDIS STRUGALESY AFRNILPTKEG NFSHSISENE PRCAPEDAE NPCEDIMGYD ISFADECMGL YLLLIASVDS TLERWHTITY AIHLDQKLRL TTLSQVYILT ILILNVVAFF CMAPISFFAI SAAFKVPLIT FGCCKRRAEL YRRKDFSAYT	ttgtggttgg gggcgcgcgt A ggcgcggtg ggtgccgtg ggtgccgtg ggtggccgtg ggtggccgtg ggcgccgtg cagcagaaca gaaaatttgt a gagctgtcat ggctgccatc ggaaagcatc tgcacagaa ccatttgtat tgcattgtat tttcctatt gcggttggc ttattcctatt gttagcacatg gctcttctat ttagcacatg gctcttctat attactggc tattgcaatc ggaatgagcaa ccggcgggta acttactggc tattgcaatc ggaatgagcaa ccggcgggta tgggatgctat accagtgtg ttagcaccct tacagtgct a tgggatgctat accagtgtct a agaatgtctcg gcatattgcatt ttattgggtaat ggtggttctc
toggtacgca ctagccacat ctcagttgca ctacgtttca gactagtgct taccatactg tctatctgtt ctattataga atttaaggta aacatctga tagactgtaa actctcga ctacctcaag atcttggca ttatgaaaca tataatgaaa ttatgaaaca pepCNCVPDG	*	tgtcccgccg cggacggct ggggggcgc tgtgggccgc caggaggcga ggctcccctg gttgccgcag ccgcccgggc tagcatgact tcgatctgat ttcacagcac cataaccaca cttcacagcc cataaccag ttcacagca catagcaca ggtggcaatc aaccgaagtg ggtggcaatc aaccgaagtg ggtggcaatc aaccgaagtg ggtggcaatc actgtcacac ggtggcaatc atgtcaacc ggtggcaatc tatgtcaacc ggctgctgca gactccttt cataccacacacacacacacacacacacaca
ctagagatgc actgttcaat t taaaatgaga aatgtagttt o agttctcaat ggctacgtgt g ttttcatcac cacagaaagt t ctggattcta cttatttaata cttagtgaaa cattatagat gcatttgt ttcctgcttc gagttagaat tactctgaag t	CNTGINED CONTGINED CHARLED SHAFNGTILT TSSYSLKKLP VSNKTLYSSM ILAIMGNMTV IDWQTGSGCS WLFSSLIAML FAVRNPELMA FYPINSCANP NKPSQSTLKL	acggcgcct gggctcacac gcgagtgcc gtgtctttgc gtgagagtgt gaccgagcc ctggagggaa gccaggacc ctggagggaa gccagtact tctacacac acctgtaat ttttacacaca gtccattgc tttggcaaccac tattggtcat tttggccaacc tattggtcat tttggccaacc tattggtcat ctcatgttca acacaggacc cagggcctca ttgacaccag gagaggcaca ttgacaccag gagaggcaca ttgacaccag gagaggcaca ttgacaccag gagaggcaca ttacggtttt gtgtggtcat tttacttag tcttctggca tcttacttag tcttctggca tcttacttag tcttctggca dagacccag gaacccaga daaccgga ccacagtgcca tcttggcca tatgctcaca accttggccat gaacccaga gaacccaga gaacccaga gaacccaga accttggcca accagtgcca accagtgcca accagtgcca accagtgcca accagtgcca accagtgcca accagtgca acgtgctggc
NP 000224.1	•	NM_001401
Luteinizing	Hormone/Chor iogonadotrop in Receptor	Lysophosphat NM_001401 idic Acid Receptor Edg2
150 2964		151 2976

Homo sapiens	Homo sapiens
gacaaagaaa tgagcgccac ctttaggcag accggccca agaacgctc agaacgctcg ggagttcaca gaaatgacaa ctctgtggtt gtcctcttt ggaggataaa cagcctcccc gagagagagaa aaaagtcaac tcatgtactt ggaggataaa agacttgata tatattgaaa cccatcct tttagacta aaatctggc tagttgaatc tttattttt aaaggatacg tttcattttaaa aggatacg tttcattttgt aagttggatg aactatggat tatcttttaga actaaatgga tatcttttaga actaaatggatt aagttgaata attaactgt tattaaaagga cccaagtac tttgtttagg attaaaagga accaagtac tttgtttagg attaacagt tatttaaaat accaagtac tttgtttagg attaacagt tatttaaaat actaaaaa aaaatgatt actaaaaa attaacta tttgttaaaat accaagtac tttgttaacaa aaaaatgatt actgataata tcacaaacca tttattaaagt actgataata tcacaaacca tttataaagt tatgtgtatt gtatactttt tttaaaagt actgataata tcacaaacca tttacaaaaa aaaaatgatt actgataata tcacaaacca tttacaaaaa ttagtgtatt gtatactttt tttacaaaaa attaactta ttacaaaaac ataatttaa tgatactttt cattgcaaaa tttgcaaaa tttgcaaaa tttgcaaaa tttgcaaaa ttggtgtat gtaacttttt tttacaaaac ataatttaa tgatactttt cattgcaaaa ttggtgt laactattt satttaaccat tagtgtatt gtaactatt ttgcaaaaac ttggtgt laactattta ArFEWNYNNN WWLYAHIFG YNRGKFFLLIA SENFIGNILL DVCCPQCDVL AYEKFFLLIA SENFIGNILL DVCCPQCDVL AYEKFFLLIA SENFIGNILL DVCCPQCDVL AYEKFFLLIA	attteettet eeteagetga eatttggage A geetgagaet eaegecetg gagaaaegea eagecataga aaggaettet ttggtgecaa agtgeteet tgtacetgt tgageceagg tgtatggeta eccaaggatg eccaggaetg gtggeteaeg ettgtaatee ageaetttgg gttgagaea geeaggeeaa tatggtgaaa ageegggeaa tggtggtggg tgeetgtagt ategettgaa eetggtgaaggt gaaggtteea eetgggtgae ageettgaa eetggaaggt gaaggtteea
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Lysophosphat NP_001392.1 idic Acid Receptor Edg2	G Protein- S78653 Coupled Receptor MRG
152 2976	153 3038

	Homo sapiens	Homo sapiens
	ρ	4
ggaccagaca ggagcagaca ggagaacaga gatatgtagt ctgctcctga ctcatgtagc ctcatgtagc ctcatgtagc ctcatgtagc ctcatgtagc ctcctctgt gaatcctac ggccatcagc ccctgattc ggcatcagc ccctattc ggcatcagc cccaaaatac catagtaaaa aaacagcagc gaaggaatct ggtgcagatc gaacatcatc gggaacct ggggaatcg gaacatcatc gaacaaaa gttccaacag gaacatcatc gaacaaaa gaacaaaa gaacagcaac gaacaaaa gaacaacaa gaacaacaa gaacatcatc gaacaaaa gaacaacaa gaacaacaa gaacatcatc gaacaaaaa gaacatcatc gaacaaaaa gaacatcaacaa gaacatcacaa gaacatcacaa gaacatcacaa gaacacaaaa gaacaacaaa gaacactcat gaacacaaaa gaacacaacaa gaaccttcat gaacacaaaaaa gaacacaacaaa gaacacaacaaaaaaa gaacacaacaaaaaaa gaacacaacaaaaaaaa	FLQNETNETI YILHLVAADV RCVCVLFPIW FHAILSLVMC MFVTTSYLIS	cagcagcagc aatgaatgct cctccaagcc
agtagaacct aacaacaaga gttaggggag catccactct gattggacca tctgggggaa agatatctct acctggtatc tgcagatgag ctgtgctggt gtggggccac atcttgctggt gatgccaccg tttgcatcaa tttgcatcaa tctatgctgac tctatgcggt tgcaccacta tctatgcggt tgcaccact agaaaaggct agaacaccc tctatgag tctctattac cctcattac agaacaccc tctatgag agcatctaa agaacaccc tctatgag catctgag catctaa agaacaagct agaacaagct agaacaagct agaacaagct agaacaaacc cttgctgac cttgctgac agaacaagct agaacaaacc cttgctgac agaacaaacc agaacaaacc cttgctgacc cttgctgacc agaacaacc cttgctgacc agaacaaacc	PNLVSQLCGV CCGATNPYMV LCLLVAISTE CVIFLKLSGL SVAPLITDFK	ttcctgtgag ttctgacagc gctcggagca
attagtgccc aagaatactcc aagaatactcc aagaaacccat ggacaccatgg gctgagtcac aagaaaccaa accatacata gccccaagg ctgctttgct gacgtgatct atctggtacat atctggtacat atctggtacat atctggtacat atctggtacat atctggtacat atctggtacat atctggtacat atctggtacat atctggtacat atctggtacat atctggtacat atctggtacat atctggtacat atctggtacat atctggtacat aagaacacaagg ccccctgagg atttccttgt agcctcagaa atttccttgt agcctcagaa atttccttgt agcctcagaa aaaaacaaccc cccagtttga taaggctgct taaatttccca taaaacaaccc cccagtttga tggtacctgct taaattccca taaaacaaccc	LHSGDQEAQN LLNGTVFWLL ILSPESFEVC FLTYWKHVKA PMFLLWALPL	gattttgtct ggatcagccc ctgcctaatg
tgagacacta ttagtgcctc tcctgtacaa atttgcagag aaagcacac tgaggccaga caggtcccag gacaatgtt ccaggaggca gacaatgtt tgtcttctgg ggtcgctgct gctaacttat cctcttccc cctcatctgg gcagcaaaag ctgagcccta cctctttgg gcagcaaaag ctgggcccta tcactttta cttctggg ggcgttagca ttaactttta attggacacca atggactttc atggacttcca atggactttc atggacttcca atggactttcca atggactttcca atggactttcca atggactttcca atggactttcca atggactttcca	SQISLSCSLC KAVLVSLCGV VVFFIPDFLA PFCINIVKSL RVYAVVQISA RKKRLKESLR	tctggaggga gcccagctc tcagccaaca
		EHRVDVET aaaagaagta ccctgctgga tgccctctgt
aaaaaaaaa atgtgggtag tcacaaattc taatgttcag aaatgtagag ctgtgatgt ttcagccag ggggtctttc atggtcttat acagacagg gggttcttat acagacagg acatcaatg tcaaacat tcaaacat tcaaacat tcaaacat acagagagg acaacata tcaaacat acaacata tcaaacat acaacata tcaaacat acaacata tcaaacat acaacata tcaaacaa gagacata tcaaacat tcaaacat acaacata tcaaacata tcaaacaa accaaagga accaaacata tcaaacaa accaaacata tcaaacata tcaaacata tcaaacata accaaacata tcaaacaa accaaacata accaaacata tcaaacaa accaaacata	acaaaggcat MVWGKICWFS HMQMSMAVGQ IYLCCSAVGF YRCHRPKYTS VSSLTLLIRF LFLIINSSAN	TQHVENLLPR atgagcatcc ttcctacgga tcgtgctgcc
	AAB21255.1	NM_019888
	G Protein- Coupled <sup>:</sup> Receptor MRG	Melanocortin NM_01988 3 Receptor (MC3R)
	3038	3057
	154	155

	Homo sapiens	Homo sapiens	Homo sapiens
caagcccgag cctggccgtg ggcgttggcc cgtccacatg cgacaggtac ggcctcacc cgtctactcg gctctcatg catagcagca catagcagca ccacctggtc cttcaacacc cttcaacacc	LPNGSEHLQA P YFFLCSLAVA NLLAIAVDRY TMFFAWMLLM CWAPFFLHLV LCGCNGWNLG	ccgcagcagt A tggagggtgc cagcttgttg acccatgtac tggatcagaa cacagtgaat ttgcagcctg ccataacat cacggttca cacggttca catggccagg aggtgccagg aggtgccag ctgggcccca tgtgtgcttc	EVTLGVISLL P DTDAQSFTVN
aggicticat tctgcagcct tgatcgccat acaacatct ccatcgccgt ccgtgaggaa tggtgttcat tcgccatgat acatcaagcg acatcaagcg acatcaccca ccatcct	SCCLPSVQPT VRNGNLHSPM ICISLVASIC ESKMVIVCLI ITILLGVFIF LELRNTFREI	acctctggaa gctactctga ttgggtgtcat atctgcattc gcgtttcaaa cacagagttt ttgcatccat ttgcatccat ctctccagta ctctccagta gggcagcttg tcatctgcct acatgttcct ccatctgcct acatgttcct acatcgcca	YEQLEVSPEV
ttctgtgagac ctggaaaaca tacttcttc gagaccatca cagcacatgg agcatctgg gtctgtggcg accatgtct gcgcggctgc caacacttcat tgctgggcc tgctggcc tgctgggcc tgctgggcc catctgt	GSALLTAMNA LENILVILAV QHMDNIFDSM VCGVVFIVYS QHSCMKGAVT IDPLIYAFRS	acttctctgc cttggaaaag tttgtgactc aagaacaaga atgctggtga gatacggatg agctcttgc atcttctatg agtgctgtca ctctatgcc ggcactgtg attgcctgta atcattgta	
cagcagcgcc cgtcagtctg caatgccctg caatgccctg cctcatctgc ccgctacca ctgctgcgc gttcctcatc gttcctcttt ggccccaca gttcctcttt ggccccaca gttcctcttt ggccccaca gaacccctc	FLRTLLEPQL IFLSLGIVSL DYLTFEDQFI LIVAIWVCCG LPPADGVAPQ YLVLIMCNSV	tgggatgcac cagtgagtcc tcctgaggtg ggcaatagcc tgtggctgat aaacagtaca ggtgatctgt gtacttact gatcatacata ctcagatagt catggcttct tgtcctccc gaccatcctg tgtcctcccc	YRLHSNASES FFICSLAVAD
gcaaccagag ctctgggcat gcaacctgca taagtgtgtc ccttcgagga ccttggtggt tttacgcgct ccatctgggt acgtcacat acgtcacat ccgacgggggt cctgcccaca cctgccccaca cctgccccaca cctgccccaca cctgccccaca tcctgccccaca tcctgccccaca	DEVFPVSSSS ECEQVEIKPE ETIMIALVHS SIMTVRKALT ARLHVKRIAA CICYTAHENT	ccacccaccg acagcaatgc tttttgtctc tagtgattgt gcagcttggc tcaccctatt tcattgactc cagtggacag agcgggttgg tcatcattta tgctggctct agaggattgc cgattacctt acttaatatt tcactgattgc	TSLHIWNRSS KNKNLHSPMY
atttcctgt gtcaggaacg gacatgctgg gactactga atctgcatct gtcaccatct ttgatcgtgg gagagcacctct ctgccacctct ctcatcatca ctcatcatca ctcatcatca ctcatcatca ctcatcatca ctcatcatca	MSIQKKYLEG PFFSNQSSA DMLVSVSNAL VTIFYALRYH GTLYVHMFLF LIITCPTNPY	attgttgaact tacagaccac gagaatatct tttttcatct accattatca attgataatg ctttcaattg atgacagtta ggcattttgt ttcttcacca ttctcacca ttcttcacca atgaaggag ttcttcacca atgaaggag	CCCCLGGGGAG MVNSTHRGMH ENILVIVAIA
	NP_063941.1	NM_005912	NP_005903.1
	Melanocortin NP_063941 3 Receptor (MC3R)	Melanocortin NM_005912 4 Receptor (MC4R)	Melanocortin NP_00590: 4 Receptor
	3057	3058	3058
	156	157	158

	Homo sapiens	Homo sapiens	Homo sapiens
	<b>4</b>	ρι	4
SCIWAACTVS GTGAIRQGAN IMCNSIIDPL	agagggcaac cattgctgtg catagggggc cctactcaac gtttgactcc agtggatagg gcgctcaggg catcctgtac gctgttcctc gcggatcgc gctgttcctc cctgtaccgc ccgcaccgtc tctcacttta caatatgtac	LLENILVIGA VRHIDNVEDS TGCGIVFILY RTSMQGAVTV DPLIYAFRSQ	catgggggac aagaactgtg ggctgtgcag cccccagctg tgacgggctc caccatcgcc cttgtcggac ggaggccggt cgtgatcacc ccgctacatc gcggcaagcc ctactacacc gcggcaagcc ctactacacc
MTVKRVGIII LHIKRIAVLP MSHFNLYLII	tgaatgccac aagacatggg acatcttggt tcgtgtgcag tcaccatcta ttggccattgc tggccattgc tgacggcgag gcattgctt tcttcgctat tctcgctat tctccttca tctcccttca tgtctcacttca tgtctcacttca tgtctcacttca tgtctcacttca tgtctcacttca	EVELTLGVIS NKHLVIADAF AIIAGIWAFC ALPGASSARQ LILIMCNSVM	aggaagcaag acaggactat ccacagccat tgtccatctc tggtggtggc gctgcctggc tcctcctgct atgtcattga tcgccgtgga tcgccgtgga tcccagggc ctatcatcgc
IFYALQYHNI LYVHMFLMAR CPQNPYCVCF RY	gatctcaacc tcaccatgtg ctcttggaga atgtacttct tgggagacca gtgcagcttac caccacatca acgggctgcg atctccatgt ctggcgcgga atgaccagca tgggcccgt tctcgcttca tgggcccgt	SPCEDMGIAV WETITIYLLN HHIMTARRSG LARTHVKRIA SREMSHENMY	cccagatgga aagcaggaca tgcttcctgg aactccaccc tgcctggagg gagaacgcgc tgcttcatct acggccgtca cagctggaca ctgggcgcca atcgtgaccc ttcaccg ttcaccgttaccc
LSIAVDRYFT FFTMLALMAS FFLHLIFYIS PLGGLCDLSS	gcatttettg aaacaagtet tgtcatcage gcactccacc ggcacccett ggcatccatg cctgcgctac ggcttcctc catgtcctc catgtcctc tgcgcggcag taccgtgcct taccgtgtgc taccgtgtgc	LSGPNVKNKS ADMLVSMSSA YVTI FYALRY LVSLYI HMFL MLSCPQNLYC FPRRD	
SSLLASICSL SAVIICLITM IGVEVVCWAP KTFKEIICCY	catttcacct ccaatgtcaa tcactctggg acaaaaacct tggtgagcat tagtgagtagc tttccgtggt tcttctacgc ccggcatctg cctacgtcat tgtacataca gggccagct tgtacataca gggccagct tgtacataca agaccttaa agaccttaa	DININATEON MYFFVCSLAV CSLLAIAVDR ISMFFAMLFL WAPFFFHLTL CCRGFFIACS	tgagggcaga ccctggcaga ggaagacttct ccaaccagac tggggctggt acctgcactc gcgggagcaa acctgcactc gcgggagcaa cccgggctgc tgctgtccag acgcactgcg tcctgtccag tcctgtccag
IDNVIDSVIC GILFIIYSDS MKGAITLTIL IYALRSQELR	atgaattcct ctttcaggac atagtgaaga gcggacatgc aacaagcacc atgatctgca tacgtcacca gccatcacca tcagaatcca ctggtgtctc gctctgcccg accatgctgc accatgctgcc accatgctgcc	MNSSFHLHFL IVKNKNLHSP MICISVVASM SESTYVILGI TMLLGVFTVC EMRKTFKEIT	accadaged accada aggacctga aggatccaga ttctcagcc aagaaccgga ctgctggtga gcactggtga tgcagctcca tccatcttct gttgcggcca
	NM_005913	NP_005904.1	NM_002386
(MC4R)	Melanocortin NM_005913 5 Receptor (MC5R)	Melanocortin NP_005904 5 Receptor (MC5R)	Melanocortin NM_00238( 1 Receptor (MC1R)
		3059	3061
	159	160	161

	Homo sapiens	Homo sapiens
t cacctcacc t cacactcatc a cctctttctc a cagccaggag g cacgcgcttt t gtgaccctgg	L VSLVENALVV P A AVLQQLDNVI V ASVVESTLFI P VHQGFGLKGA N AIIDPLIYAF	c ccccagocc A c ctcccagocc C c ctgcgtcatcgg t ggcagacctg a cgggtggaac a tatggtctcaag t atggtggtttc ggtggtgttc ggtggtgttc ggtggtgttc ggtggtgttc ggtggtgttc ggtggtgttc ggtggtgttc ggtggtgtt taaatggaaa aaaaagcacc ggactcctgt t taaatgggaaa aaaaaggacta t ttctgaggaaa aaaaaggacta t ttctggggaaa aaaaaggacaa aaaaaggggtaa aaaggggtaa aattttattta taaatgggaaa aaaaggggtaa aaaaggggtaa aaaaggggtaa aaaaggggtgaa aattttattta
aaggegetgt tectgeatet agaactteaa aegectteea gagegegtg tggteetgt tggactaaat	SDGLFLSLGL LEAGALVARA A ARQAVAAIWV JIARLHKRQRP	regagedatage tacccaacge ccgccctage tcatcctgtc a tatttaacaa gccttageggt tcatctctcat tccatcgcca tccatcgccat tgagaatatg ccatcgcctag a actgaaac gccattgcctag gctgcctcaa gctgcctcaa gctgcctcaa gctgcctcaa gctgcctcaa gctgcctcaa tcgataaggt ccgatagggt ccgatagggt ccgatagggt ccgatagggt ccttacaaac ggtgcctcaa gaattatata ccttacaaac cttgacaaac gaattatata ccgatagggt ccgatagggt ccgatagggt ccgataggt a ctccgttta a ctccgttta cctacaaac ggtgacaac ggtgacaac ggtgacaac a atgaaaagga cattatatagt ccgatagggt a ctccgttta a ctccgttta a cttgacaaac ggtgacaacaa a atgaaaagga a atgaaaagaa
tttggcctta ggcccttct tgcatcttca ccctcatct tgctctggt ttgtgtggtc	TGARCLEVSI NVLETAVILL RYHSIVTLPR LARACQHAQG PTCGCIFKNF	geggaegagg ggeagegect ttgtggtga tttgtggtga ctgatgtgtg ctgatgtg gectactgct tccgcctaca ttctgttacc ggcaaacca gtcctcttg cccgccaga gtcctcttg cccgccaga aacgacggg aacgacggg aacgacggg aacgacgtgg gtaaaggtgg aacgacgtgg gtaaaggtgg aacgacgtgg gtaaaggtgg aacgacgtgg gtaaaggtgg aacgacgtgg gtaaaggtgg aacgacgtgg gtaaaggtgg aactagcagta acctggctgc ctactagtca tattgtaaat tattgtaaat tattgtaaat acctagacaa acctagacaa
ccaccagggc cctctgctgg cacgtgcggc catcatcgac ggtgctgaca ggtgctgaca ggtgctgaca	IPQLGLAANQ ALSDLLVSGS DRYISIFYAL VLMAVLYVHM LTLIVLCPEH	ggtcgggcgg gcagggcaac gcagcctcgg aggaaacatc cccgttggtg agtcagtggg ggcatcatc caacacacc caacacac gaaacctca gaaaccta ttcaggaag ggacatct caataatgta ttcaggaag ggacacct caataatgta tccaacttt caataatgta tccaacttt caacacttt ggaaacctct accccccat ggaaacctct caataatgta tccaacttt caacacttt tccaacttt ggaaacctct caataatgta tccaacttt caacacttt tccaacttt tccaacttt tccaacttt ggaaacctc tccaacttt tccaacttt tccaacttt tccaacttt tccaacttt tccaacttt tccaactttt
agcgcccggt gcattttctt ccgagcaccc tctgcaatgc cgctcaagga ggcagaggga	LGSLNSTPTA SPMYCFICCL SLCFLGAIAV CLVVFFLAML FLCWGPFFLH	cettaacaagt cagggaccat gggacggcgc tcaggaacgc ttatccgta tgaactgcca tcaccggcat tcaccaggcat tcaccaaga tcaccaaga tcaccaaga tgaaccaaaa tgaaccaaaa tgaaccaaaa tgaaccaaaa tgaaccaaaa tgaagacga ggaggaacga ggaggaacga tgatgaccaa tgatgaccaa tgatgaccaa tgatgaccaa tgatgaccaa tgatgaccaa tgatgaccaa tgatgaccaa tgatgaccaa tgaagatggac ggaggaaact gcattataaaa tgttaacttgt tgatgaccaa tgaagatggac ggaggaaact gcattataaaa tgttaacttgt aatgaaccaa tgaagatggac ggaaggaaggg tgaagatggac ggaaggaaggg tgaagaacga atgaaccaa tgaagatggac ggaaggaact gcattataaaa tgttaacctgt aatgaaccaa tgaagatggaact gcattataaaa
cacaagaggc atcctgctgg gtcctctgcc gccctcatca ctccgcagga aagtgtgctg gcagttcctt	MAVOGSORRI ATIAKNNIH DVITCSSMLS AYYDHVAVLL VTLTILLGIF HSQELRRTLK	coggoggago gtgtccgcg atctcacca aacaagaago ctgggctatc atattcaaca tactggctatc acctcctcg cactcctcg ctccaggtca aacttcattg aacttcattg tacgggctac acgtctccac acagccagg ccgtctccac acgtctctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtcctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtctccac acgtcctccac acgtcctccac acgtcctccac acgtcctccac acgtcctccac acgtcctccac acgtcccac
•	NP_002377.2	NM_005958
	Melanocortin NP_002377 1 Receptor (MC1R)	Melatonin Receptor type la
	3061	3079
	62	ε 9

	en en	ອ ຕຸ ສຸ
	Homo sapien	Homo sapien
	<u>a</u>	4
ggtagctata cagataaaga tgggaggctg atgatgaaat gtaatcccag ttgtggtgag	SVYRNKKLRN VIGSIFNITG DPRIYSCTFA PQDFRNFVTM NAIIYGLLNQ	tgcggctgc agaacggctc cggggggctgg tgtccgcggt cattggctga atgaccgca gcgtcatcgg gcgtcatcgg acgacccacg cagtggtggt tctgggtggt tctgggtgcc cccagatcc tctggctgc agccaggg agcctggatc tcttggccct aggggctgca tcttggccct tcttggccct aggggctgca tcttggccct aggggctgca tcttggccct aggggctga agcctggatc caaggctggatc ccagatccc tcttggccct agggactgca agcctggatc ccagatccc tcttggccct agggctgatc ccagatccc tcttggccct agggctgatc ccagatccc tcttggccct aggactggatc ccagatccc tcttggccct aggactggatc ccagatccc ccagatccc tcttggccct aggactggatc ccaactcgtaa agcctggatc ccaactcgaa agcctggatc ccaactcctcc ccaactcgaa agcctggatc
gttagcattg tgcatgcaac ctcagcactt ctggggcaac gcacacgcct gaggcagagg	DILGNLLVIL QVSGFLMGLS PNLRAGTLQY VKPDRKPKLK YYMAYFNSCL NNNVVKVDSV	gegegegece gegatgicag cegggetggt getecagege tagggeetgg atgggeetga atgggeetga tacatege tacatggegg tacatggegg tacatggegg tacatggegg tacatggegg tacatggegg tacatggetc aagaagatcc aagaggatcc aagaaggatcc aagaggatcc
agctggcaga ttacaagttg cacctgtaat tgagaccacc tgggcatggt ttgagcccca gctacagaat	ACVLIFTIVV NGWNLGYLHC IWLLTLAAVL WILVLQVRQR RIPEWLFVAS	geteagtact gggagagtet ggeagtgege tecetgggtg gggeaacete tttgttetttg aatectegtg egeetttgtg getecttgtg ggeetect gggggggggg
caaaccttcc ccgctctata cagtcgctca ttcaggagtt aaaaattatc ggagaatccc tccaacttag	ARPSWLASAL YPLVLMSIFN SKNSLCYVLL IIVIFCYLRI VASDPASMVP VDSSNDVADR	agaagcaccg agcacagcgc cggggcgggtg cccctcgacc tggacgtcag acgaagccag gcaaggccag tgcccaactt tgcccaactt tcgctggca tcgctggcag tcgctggcg tcgctggcg tcgctggcg tcgctggcg tcgctggcg tcgctggcg tcgctggcg tcgctggcg tcgctggca acaaacttccg ttggtggca tcgggccac tgggacacac tggaaaac acaaactc ggaaaac ggaaaac ggaaaac ggaaaac ggaaaac ggaaaac ggaaaac ggaaaac ggaaaac ggaaaac ggaaaac ggaaaac ggaaaac ggaaaac ggaaaac ggaaaac ggaaaac ggaaaac gaaaactaa ggaaaac gaaaactaa gaaaactaa ggaaaaca gaaaactaa ggaaaaca gaaaccaac
accaacacca taaatgtttg aggccgggca atcaactgag aaaaaataca gactgagtta gccagtacat	ASQPVLRGDG VADLVVALYP HSLKYDKLYS VVVFHFLVPM WAPLNFIGLA	ggcagggaag cggtggccaa tgctgcagga accaccgccg aagctccgga gccttctacc gaggagcact cgaatctacc gtggccttgc ttctcacca atcgcctcg tttgtcacca atcggcctcg tttgtcacca atcggcctcg tttgtcacca atcggcctcg cagcactgca cacccaca caccaccatca caccaccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatcatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatca caccatcata caccatca caccatca caccatca caccatca caccatcata caccatcata caccatcata caccatcata caccatcata caccatcata caccatacata
cacaaccaca ctcatggtca actaaatcat aggtgggcag cccatctcta ctactcagga	aaaaaaaa MQGNGSALPN AGNIFVVSLA IAINRYCYIC QSVSSAYTIA FVVFVLFAIC NFRKEYRRII	acgcgagctg cggggccgcg cttcgccaac cagggaaccgc cctggtggtg ggccctgggg ggcctcacgtg cctcaccgtg catctattcc catccacttc gatcacttc gatcacttc gatcacttc gatcacttc gatcacttc tgagggaca ttggaaccca gagcccagct tgaggacaca tgaggacaca tgagaccag ttggaaccca gagccaagt ttggaaccca gagccaagt ttggaaccca gagccaagt ttggaaccca gagccaagt ttggaacca tgagaccaagt ttggaaccca gagccaagt ttggaaccca gagccaagt ttgagaccaagt ttgagaccaagt ttgagaccaagt ttgagaccaagt ttgagaccaagt ttgagaccaagt tcatagaccaa
	NP_005949.1	MA_005959
	Melatonin Receptor type la	Melatonin Receptor type 1b
	3079	3080
	4	59

<b>Homo</b> sapiens	Homo sapiens
TLIVT TAVDVVGNLL P ALGE EHCKASAFVM LITVV ALLPNFFVGS VLQA RRKAKPESRL PEGLF VTSYLLAYFN PSPAP PIIGVQHQAD	trett aacgatecec A igtat tggetgtaag igege gatggttate ftgac gaagaacaag geege tatgetggtg ggetg ggatetgage ggetg ggatetgage geetg cactacace ceteg cactacace gretg catecacte acea agtgetggeg gtteg catecacte aceta catgacege aceta caggetece aceta caggetece aceta caggetece ggga cetacata aceta caggetece acete caggetece catge cetacata gatge tgcagetgge cete tgcetatege acete tgcetatecet acete tgcetatecet acete tgcetatecet acete tgcetatecet acete tgcetatecet acete tgattaceat acea tgattaceat acea tgattaceat
a ggtgcagagg gc E SRTPRPPWVA PALSAVLIVT A FYPYPLILVA IFYDGWALGE R IYRRWHTPLH ICLIWLLTVV L LPIAVVSFCY LRIWVLVLQA I GLAVAINPQE MAPQIPEGLF R HCIQDASKGS HAEGLQSPAP	c tgagcctgct gggagatctt t cccacccct atggctgtat a atcatcttta tgttctggcc g gtcagtctct tggtggtggc c atggtcattt tggctggtggc c acaggctca ttgggggctg c tgctacatct ccatggggctg c tgctacatct gccacagctt c accatggtca tcactggat c tactggtag atgtggtcgg c tcactggtca tcactggat c accatggtca tcactggat c accatggtca tcactggat c accatggtca tcactggtcg c tcactggtag acgtggtcgg c tcactgtgag acgtggtcgg c tcactgtag acgtcatca g gaggcaaga tctggagtca a gtgtgctggt gccctatca g gaggcaaga ctggggtggt t gaacaagacc tgtggatcta c atcttccatg ctgtgatcta c atcttcatta ctgtgatcta c atcttcatta ctgtgatcta c atcttcat caggcagtc c ttagccact ccaaggctg c tcccattcc g ggtgactctg tccatttcaa c aagcctgctt ccatttcaa c aagcctgctt ccatttcaa c aagcctgct acaccactgc c catgctgagc ccaccactgc c catgctgaga ccaccactga c caccctgtgt ttgacgaaccc t ccaagtcgt ttgacgaaccc t ccaagtcgt acaccactgc c catgctgaga ccaccactga c accaagcctg tcgacgaaccc t tcaagtcact acaagccaga c accaagcctg tcgacgacag t gtagtcacta ccattacaggca t gtagtcacta ccattacagaca t gtagtcacta ccattacagaca t cctgatgaa tggctgtgtgt
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Melatonin Receptor type 1b	Melatonin-Related Receptor
990	908 3081

Homo sapiens	Homo sapiens
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NP_004215.1	NM_000838
Melatonin- Related Receptor	Metabotropic NM_000838 Glutamate Receptor 1
3081	£60£ .
ω_	9

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174 3095	175 3096

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Homo sapiens	Homo sapiens
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3096	3097
176	177

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HSEPVARSSS LTPPSPFRDS

SRIDDDVPSL

STLSHRAGSA AAPSPGVGAP

> SELNSMILST AQAAGDAARE SSPKYDTLI

> > VTGGAQPAAG

**AEIQPLPAIE** SOGSLMEQIS **JOSGSTTPNS** 

PARPRSPSPI

VAEAEEHFPA SWTRFTANI PVSESALCIP

PDAGPKALYD

LCSSYLIPKE AKPDLEELVA

SPAAGPEAAA

RDYTQSSSSI

sapiens Homo ۵, tgtcccatgc gggattccac KVHERKCGAV EFIRDSLISS AYSATSMDLS RNPWFOEFWO LHNMOMSICP FKEMGKDYFD IGLSPAMSYS LFIMEPPDIM RNVRSAFTTS SSRGQHLWQR AGAGPGGPES tctaccagag RRLGLAGEFL CWICTPCKEN AKYIAFTMYT cgtctcttca agcgtaacgg aaaacatcaa cttgaaaaga tcttgactat LLATLFVTVV ggcccgggag gctggtggct cccaactcg tcttatcata gccggcctgc gtcgcctggt agtagtgcta tctagtggct ctttaattct agagtetttg FKDMSAKEG1 **FSVHHQPTVD QIYCYLORIG** TRNVPANENE GVGATGGAGC gtggaagatt INALYSMAYG IAAVVEACLG ICIQLGIIVA KVYIILAKPE KSVTWAQNEK ctggggacgc acctggagga ggagcacaac aatatqacac tggaaagcac ggcaagcata aacacagatc gagattttct ggtgacaagg cgtgtgaaac tatttgttta ttcccagaaa atctgggacc ctgtaaagac gttgtgaatg acgtagggct gcctgcatcg HSAVALEQSI LLQLFNIPQI GNYGESGMEA MTVRGLIMAM YLKLRPETNH DSPGRYEIMN KVIRKGEVSC SSSVAIQVON HVQDSKMGFV GDTILFDENG CTFCLIAKPK CAQLVIAFIL ILSCTFYAFK SSGETLSSNG AGAGAGGSAG aagaaaacca MPGDIIIGAL WTYVSAVHTE ARWACFCEG SPDVKWFDDY QYLRWGDPEP TVALGCMEVP ccttaatgga caaactcaaa ctaatgtact LGCEIRDSCW tgaatgtccc cacacacat aatcttttgc taaaaagttt tttaattctt ttttttt ttacggaggc tcttccaaaa CSEPCEKGQI gcgcaggcgg gccaagccag gtggactcgg tegtetecea tatctttgag ggaagcagtg atttgtttac cattttctaa ttcttttgt gagtegtgeg tgtgaaatac tccattaacc OSSERRVVAH KPIVGVIGPG AMVDIVKRYN LKKLTSHLPK AVGGITIKLO CNSSLTLKTH LMKTNFTGVS SKKSNIIRSV DLTGCDLIPV ILAGICLGYL CTKKPRFMSA VTPLGYNGLL TMCFSVSLSA SLVNLWKRRG PKSTESRGLG cgcggcaggg cgtgttcaca ccaagggacc accgacgaca aacacggtga ggtccagtat SDPTLLPNIT ggctgcggcc cagagactcg ctcgtcgttg tttgctctag taagcaactg ctgtatcccg cagattcacc LLKEDVRGSA DGSSSSFRSK WPSDAQQAR NAGEOSFDKL YDVTDGYORE PNOTAVIKPE gcgcgcagcc cgtccccctt agteggeeet ctcagagctc cggagcccc accacaagaa gcttttaaga taccaactgc gcatagttaa aaaaagtttt catgaatgta tetttttet cagtaacttg actggatagt ccaattgggt AMLHTLERIN POENSKYNKT PIDGRKLLES ELKMDDDDEVW ACQLGSWPTD KSSSRELCYI RILAGSKKKI LICHTINLGV IYFGSNYKII KSSSAASRSS ccggtcccga ggggaatatg tgccaatc REQYGIQRVE EEEGLVRCV DKTLFKYFMR CIAHSYKIYS LLGSDGWADR HRFQCRLEGF GYAGLCDAMK YINVGSWDNG FIIYRDTPVV ALVTKTNRIA HDYPSIREVY TCIIWLAFVP TVVRMHVGDG LSIHINKKEN gtcacgggcg ctcacccgc agagattaca gcgtgcggag tctcatgaca tagaaacatg aacagttcca agggtgaaga tttcccctgt attcaccaaa atttttatt ccttgaaaag ataacacact atttcctct ctacttattt ttcaccatgt MVLLLILSVL EYVFDEYTCK agccccgcgg ccagtgtccg tacggcccag Metabotropic NP\_000833.1 Receptor 5 Glutamate

178

Homo
ggegecece A egetetectt gaecgaecece A etggegecega etggecgecega ecgegecegega ectgetege egetetegegaecegegagagagagagagagagagagagagagaga
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NM - 000843
Metabotropic NM_000843 Glutamate Receptor 6

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Homo	Homo sapiens
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tgggcctctc cacattcggt atcctctgtt gaatttctg gtgcatacag gggtcttgct cgacctgggc tacccagcta ctcgaacttc aacgtgagcc agctccctaa ttatttgga cattcttcca agctcctaaag ccattgttg ggttggaggc ggttggaggc ggttgaggc ggtttgaggc ggtttgaggc cttatccttt aagagtccag cttatccttt ARPRRAREP KKEGGVHRLE GGGDEVGVRC ISDSTRYDFF GGCIAQSIK FLWVGSDSWG WEENFOCKLA ALCPGHTGLC SASSGGYQAV TTVVATFVRY TTLSYSALLT PHSVIDYEED	EARPIGETMY YVILLECCAA gaattcccaa gccaggatgg gggattacag cttggctgaa ggaataggca
NP_000834.1	NM_000844
Metabotropic NP_00083 Glutamate Receptor 6	Metabotropic NM_00084 Glutamate Receptor 7
3008	3099
180	181.

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	Homosapiens
	TE TC TI LGGLFPVHAK P SS RDTYALEQSI LR LFQIPQISYA SY GEKGVESFTQ DE DIKQILAAAK F TSRTLENNRR DF VIDAVYAWAH ON GDAPGRYDIF PG QRKKTQKGTP PW AVIPVELAMI TO SVQLLGVFIW TI SVQLLGVFIW TC TVYALKTRGV TN LSASVALGMI TO LSASVALGMI TO LSASVALGMI TO TYALKTRGV TO LSASVALGMI TO TYALKTRGV TO LSASVALGMI
	aataaggaat HSIRIEGDVT LGARILDTCS VSTLASEGSY VSTLASEGSY RAVVIFANDE ATVEGEDAYF NYEQEGKVQF NYEQEGKVQF NYEQEGKVQF ILKLEWHSPW ILKLEWHSPW ILKLEWHSPW ILKLEWHSPW ILKLEWHSPW ILKLEWHSPK SQLAITSSLI GYSILLMYTC
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	atattgtcca LEVLLCALAA AMLYALDQIN PPVFVKPEKV PDSFQAQAMV KDRTIDFDRI NPLHQHEDIA SKKEDTDRKC EQAGGKKLLK ELQLNIEDMQ QHCPYDQRPN VRASGRELSY YRIFEQGKKS EQARGVLKCD WLAFIPIFFG RSFKAVVTAA
accatcaaga atgtacacga tcagtgggaaa tcagtggcgc ctcaatgtcc tcgaggctgt gaaaacgtag gttatctaac cacccaacct ccggccggga ccttactta gtggaccttc ggaccactga taggttgcaa tctccagacg ggccactga tctctcagacg ggcagactaca ttattatgtt acatgattgc acatgaatgc acatgaatgc acatgaatgc acatgaatgc ttattattgca ttattatgtt acaaaagcattg gaaaaagcatg gaaaaaagcatg gaaaaagcatg gaaaaaagcatg ttattttgca acatgaatgt acaaaaagcatg gaaaaaagcatg gaaaaaagcatg gaaaaaagcatg gaaaaaagcatg	caattctgtg LTIMKFPCCV KRENGIHRLE TSDVRCTNGE RYDFFSRVVP AQSVRIPQER VGSDSWGSKI NFNCKLTISG ADYRGVCPEM GYRLIGQWTD YQYQFDEMTC TFIRYNDTPI AALLTKTNRI DYDEHKTMNP GFTMYTTCIV
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	NP_000835.1
	Metabotropic NP_00083 Glutamate Receptor 7
	3089

3100 Metabotropic NM 000845	C NM 000845	tactatatta		CEEEGGGECE				ОШОН
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O)		grargcgagg	gaaagcgarc	agccrcrrgc	ccrdrrcr	rccrcrrgac	cgccaagttc	sabrens
Receptor 8		tactggatcc	tcacaatgat	gcaaagaact	cacagccagg	agtatgccca	ttccatacgg	
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		aaatctgtca	cagcgcccaa	gttcattagt	ccagcatctc	agctggtgat	caccttcagc	
		ctcatctccg	tccagctcct	tggagtgtt	gtctggtttg	ttgtggatcc	ccccacatc	
		atcattgact	atggagagca	gcggacacta	gatccagaga	aggccagggg	agtgctcaag	
		tgtgacattt	ctgatctctc	actcatttgt	tcacttggat	acagtatcct	cttgatggtc	

Homo	Homo sapiens
itcaa tgaagccaaa itcat ccccatctt acat tactgtctcc aaggt ttatattata aaggc tgtggtgaca ccaaa tggcgaggtg aagac aacatatac gaaga gacgtggtat gcat gagccaaag caatg aggcgaagt gcat gagccaaag caatg aggcaaag ttgta ttttctgtg agaca tgagtctgt ttgta tttttctgtg agaca atgagtctgt ttgta tttttctgtg agaca atgagtctgt tgta tttttctgtg agaca tgagtctgt tggaa tgttgcaaa tgcaatgatt ggaat gttttgcaaa tgcatgatt scan tgta ttttctgtg sgaca tgagtctgt tggaat tgtttgcaaa tgtagtctgt tggat tgtttgcaaa tgtagtctgt tgtag tgtttgcaaa tgtagtctgt sgac tgtttgcaaa tgttgcaa tgtttgcaaa tgtttgcaaa tgtttgcaaa tgtttgcaaa tgtttgcaaa tgttgcaa tgtttgcaaa tgtttgcaaa tgtttgcaaa tgtttgcaaa tgtttgcaaa tgttgcaa tgtttgcaaa tgtttgcaaa tgtttgcaaa tgtttgcaaa tgtttgcaaa tgttgttgttgttgttgttgttgttgttgttgttgttgt	aggag ctccgcctga A aggag ctgtggcagc tgctc ctggctacct ctgcc cccacgaacg caccc agccccggtt gcggt ccgaaccgca cctcc atgatcacgg
atcatttggt tagctttcat tacatccaga caacaacact atgctctata tgcccaaggt cgcaagagga gcttcaaggc aaaggaaatg acagaccaaa aacacttcct ctaccaagac gaaatggcac aatctgaaga aaggaacaa aattagccat tttatacaat aaaaccaatg acaaatcaca aaaggaaac tttatacaat gtatctgta tgtctgatgt tattcttgta tgtctgatgt caataaagaaa tgtttaactt gtataagaca tgtctaact gtataagaca THSQEYAHSI RVDGDIILGG DLLSNITLGV RILDTCSRDT IGAASSVSI RVANILRLFK TALGWNYVST LASEGNYGES ETPNARAVIM FANEDDIRRI ILPKRASIDG KVQEVIDAVY FRGSAGTPVT FNENGDAPGR FNGSAGTPVT FNENGDAPGR FNGSAGTPVT FNENGDAPGR FNGSAGTPVT STALGWNYVEVEV LIPIIKLEWH SPWAVVPVEV LCYSITFLMI AAPDTIICSF SPASQLVITF MYIQTTTLTV MYIQTTTLTV MYIQTTTLTV MYIQTTTLTV MYIGTESLE	cagatgetea geteggtece tetgtaagaa acageaggag ecegaaaagt eteggtgete ccatggacag cagegetgee caagttgete eceageace acetgteega eceatgegt etecgaecgg cagtecetee tgtgegtggt ggggetette
da taaaacgaga agt ataccacctgo agt atctctgggc agt atctctgggc aga tcttgaaacc agt tcttgaaacc agt tcttgaaacc agt cagtcttgt aga acagaccgca tga agaaccgca tga agaaccgca tga agaaccgca tga agaaccgca tga agaaccgca tga agaaccgca tga agaaccgca tga agaaccgt tga agaaccgt tga agaaccgc tga agaaccgc tga agaaccgt tga agaaccgt tga agaaccgc tga agaaccgc tga agaaccgt tga agaacagg tga gaataatt aga caataatt aga gaacagtca tga gaacagtca tga gaacagtaaa tga gaacagtaaa tga gaacagtaaa tga gaacagtaaa tga gaacagtaaa tga gaacagtaaa tga gaacaataatt aga gaacaataatt aga gaacaataatt aga gaacaataatt aga gaacaataatt aga gaacaatt tga agaaccgca tga agaaccgga tga agaaccgga tga agaacagga tga agaacaga tga agaacagaacaga tga agaacaga tga agaacaga tga agaacaga tga agaacaga tga agaacaga tga agaacaga tga agaacaga tga agaacaga tga agaac	cag aggaqaatgt gcc aggactggtt gag gcgcttggaa ccg gccgtcagta gcc ttggcgtact cac ttggcgtact gac agcctgtgcc
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r.	NM_000914 ggaat cgctc ggcga . cgcac ccac ccac
Metabotropic NP_00083 Glutamate Receptor 8	Opioid mu- NM (type Receptor
184 3100	185 3212

	Homo sapiens	Homo sapiens
atctacatt tocatagatt tocatagatt cgatacattg aaaattatca atggctacaa acctggtact gtgctcatca ctctctggct gtgttacaca cgattcgtc catcagctag ttccgactt catcagctag ttccgacct ttccgacct ttccgacct gtgtaggagg ttcttggca aggaaaggaa	NLGGRDSLCP P NLALADALAT VCHPVKALDF ENLVKICVFI FIVCWTPIHI EFCIPTSSNI	accaggaaag A agccacagtg gacagtcaat ctccatgaac ttgtgacctc
tgccaccaac gaccttccag gatagtgatc ccgaaatgcc tgtaatgttc ctctcatcca cattatgcca tgtccgcatg ggtgctggtg cattaaagcc cattgctcta aaactccact tcgcaccaaa ctccagaca acctcttca agcatttgga ctttaagtcca ggaaggtccga ttgaaggtccga tttaagttcac gaaggtccga ttttaacttc cattgatcac	K MKTATNIYIF TL CTMSVDRYIA TT LIFSHPTWYW II TRMVLVVVAV	a ccgtcctggc c tcctgtcgct a cggagctcaa a tcggtacctt g gcacgctggc
a agatgaagac a ccagtaccet t tecgtactec a tettgaecet t tecgtactec a cactaacatt a tettegect c geeceagag a teacagag t tyageaca t tettgaaca a ttaagataa a ttaagataa a agataagtga a agataagtgg a aggteateca a agataagtgg a agataagtgg c catacttttg c cattettg c tecettettg a cacttgaatg a cattettg c tattttagae t tgaagggaa a aggtaagtgg a aggtaagtgg a aggtaagtgg a aggtaagtgg c catacttttg c cattttagae	S WVNLSHLDGN Y YMYYJVRYTK Y YNMFTSIFTL Y KYRQGSIDCT S KEKDRNLRRI S KEKDRNLRRI S KLANFVLYAF S NIFARFARI	
agatacacca tttggaacca atattcaccc gccttagatt tcttcagcca atagattgta tgtgttttca atgattgtc cttcgaagga cccattcaca cttttatgcat tcttccaaca tctccgttgc atgatctgtgca atgatctgtgca cttttcaaca gctccgttgca atgatattgtgca atgatatgtgg atgatatgtgg atgacagccaa atcaaaaggtg caaaaaaggtg caaaaaaggtg caaaaaaggtg caaaaaaggtg caaaaaaggtg caaaaaaggtg caaaaaaggtg caaaaaaggtg caaaaaaggtg caaaaaaggtg caaaaaaggtg caaaaaaggtg caaaaaaggtg caaaaaaggtg caaaaaaggtg	S SCSPAPSPGS C CVVGLFGNFL I LCKIVISIDY I GLPVMFMATT A LKSVRMLSGS H HFCIALGYTN	
tgtgattgtc tctggcagat aacatggcca gttcaccag ccctgtcaag ctggatcctc gcaaggttcc ctatggact ggacaggat ctatggact tacctggact tacctggact tacctaacc agacaccacc agacacacc caaccagtc tatccaacc agacagaagt caacattagag cgaggaagtcc tgaagtcatc atgactcacc agacaccac ctaggaagt cacattagag cgaggaagtcc tgaagtcatc atgacctcaa atgctacctca agggaatgac ctaaggaatga ctaaggaatga ctaaggaatga ctaaggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga ctaaggaatga ctaaggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga ctaaggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga atgctacctca agggaatga ctaaggaatga ctaaggaatga atgctacctca agggaatga ctaagga ctaagga ctaagga ctaagga ctaagga ctaagga ctaagga ctaagga ctaagga ctaagga ctaagga ctaa	SNCTDALAYS ITIMALYSIV LINGTWPFGTI VCNWILSSAI TVCYGLMILR PETTFQTVSW	
tegatcatgta tcaaccttgc actataacat cagtctgcca atgtctgcaa caaaatacag gggaaaacct ttaccgtgtg ccaaagaaaa tgttcatcgt tccaagaaa acagctgcct agaaacctgg agaaacctgg agaaacctgg agaaacctgg agaaacctgg agaaacctgg agaaaacccac ctctgctctg	DESPAPTINA PTGSPSMITA STLPFQSVNY RTPRNAKIIN FAFIMPVLII YVIIKALVTI	atgaacactt ggtccctggc acaggcaacc aactacttcc ctctatacca
	NP_000905.1	NM_000738
	Opioid mu- type Receptor	Muscarinic acetylcholin e Receptor Ml
	3212	3223
	186	187

	Homo sapiens	Homo
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ggccagcaat gactcggccc cctggcctgg ggtagggag catcaccttt ctactggcgc ctccgagacg ggctgagggc gctgctgcag cctcacatcc ggaccccgag gaggccgact gcagttggcc tccaccttc ctacgtcaac	GPWQVAFIGI LYTTYLLMGH RAALMIGLAW VTVMCTLYWR RCCRAPRLLQ SPNTVKRPT XNIMVLVSTF RWRKTPKRPG	ctttacacat cctgqtggcc cattaacat ttactggcct ttactggcct caatgcctca acctctgac ctggtcctc gytgagaact ctttggtacg gcacatatcc ccaagaccc ccaagaccc caagaccc caagaccc
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tutgaccact tettgaccact a atcetettet caggeagete taggeagete taggeagete teagaagget cagetacaaga teagaagget cagaagaeteaaga tagaagaeteaaga tagaagaeteaaga tagaagaeteaaga tagaagaeteaaga tagaagaeteaaga tagaagaeteaaga tagaagaetea	SAPPAVS LLSLACA YFSVTRP SQEIITE SQEGAEG ARTLSAI	
	NP_000729.1	NM_000739
	Muscarinic acetylcholin e Receptor Ml	Muscarinic acetylcholin e Receptor M2
	3223	3224
	188	189

Homo sapiens	Homo sapiens	Homo
agatgatgaa tgagaactct taccccaact gcagaatatt tcctccttcc catcacttgg ccccaacact tgcctgctat tcattataag NRHLQTVNNY P VMNLLIISFD VEDGECYIQF VSPSLVQGRI AVASNMRDDE GQNGDEKQNI TFCARCIPNT	TCTTTTAAA A AGCAGAGCCA TCACCAGGAC AGATCGGTCG TGCGAGCGAT GGGAGGGACA GATCTTGGAC	agtgacacg A agtgacagge caaggtcaac tgatctcatc ctggcccctg cgctccgtc tctcacctac ggtactgtcc gggacggtg tggcacagcc catctccctg gaaagccaag ccgcccggga
ctaatatgag attccaaaga gtgactcatg gagatgaaa aaaagaagcc tggcttcat caccttgcat ctatcaaccc ttctcatgtg NILVMVSIKV ALDYVVSNAS FWQFIVGVRT KKEPVANQDP ESSNDSTSVS NTTVEVVGSS	NIGATR TGCCGGAAGG CTGTTGACGT CAGAAGGTGT ANAATGGCAA CGCACCTGGG CAGNCGGCGT TCAAATTTTG	agtecgtgeg teattgecae tgetgtecat tggegtgtge tcaagggeta tggtgagea teaceaage etgetgeetg tggtgggtaa eagtgaeett tgtaeateca cgaaggagaa tcaagaagee
		tegggcaate gaaatggtet atcetggtga ctettcagce gtgtacatca ctggactacg tacttctgcg ctatgattg tccatgattg tccaacccag tccaacccag atgacggtgc cccaagggcc cccaagggcc cccaagggcc
		caatggcagc tgagacggtg cgtgggcaac caactacttc cctctacacc gtggctggc gtggcaggc gtttgaccgc catttgaccgc catttgtcctg caattgtcctg tgtggtcatc caattactg
	,	tcacacctgt acastcgcta tggtgactgt agacagtcaa tctccatgaa tctccatgaa tctccatgaa tctcatcaca gcaccaccaa ggaccctac tctacctgcc tctacctgcc gagggccttcat tctacctgcc gccaggtcca
gagagctcca ataacccagg aagcaacat aataccaccg gtagcccgca cggaaaaga gcccataca gtgtggacaa gtatggacaa gcactttgca aacataggcg MNNSTNSSNN FLFSLACADL RYFCVTKPLT FSNAAVTFGT VKPNNNNMPS ITQDENTVST	WTIGWICK CCTGGCAGTG GGTGGCGATG GTGCCAATG CATGCGACTTG GCTAGCGAAC ATCTCAGGGC CATCTGGGAG	atggccaact tcatcatccc tccctgagcc aggcagctgc ataggcgcct ggcgccgtgg atgaaccttc cctgcccggc tcgtgctct ccgacaacc actgctgcct gccagtcgc acgcggcgg
NP_000730.1	LG1143	NM_000741
Muscarinic acetylcholin e Receptor M2	Muscarinic acetylcholin e Receptor M4	Muscarinic acetylcholin e Receptor M4
3224	3226 3226	3226
190	191	192

193

	Homo sapiens	Homo
agtccagctc aggcagtgcc ccacagaggc caccactccc cagcctccag atggtccaag cagccattga gattgtgcct gcaagttcgc cagcatcgct agcgcaaagt gacacgaacg cctacaacgt catggtcctg ggtccattgg ctactggctc tgtgcaacgc cacctttaaa	SLSLVTVVGN ILVMLSIKVN P GAVVCDLWLA LDYVVSNASV FVLWAPALLF WQFVVGKRTV ASRSRVHKHR PEGPKEKKAK PPPRPVADKD TSNESSSGSA IQIVTKQTGN ECVTAIEIVP IFAILLAFIL TWTPYNVWVL KTFRHLLLCQ YRNIGTAR	gcacccagt aaatcaccag A cagctgtgac tgctgtggta ccttcaaagt caacagccag gtgcagatt catcattgga gacgctgggc tctcgggagt gacccttgac tgtcattggcac cttttggcac atatcgggcc ctttggcac atatcgggcc ctttggcac tgccattgc tgcaatcac ggcaacta cagggaaaca actctgtgac caaagctgag tgcgaatca cagggaaaca actctgtgac caaagctgag tgcgcaaagc tgaacccacc ccgcaggag cacctccacc gggccaaagc tgagcagctc agccgccac tgaccctgtc gggaaaatt cagtgctgaa gacattga cacccaaac agaaatgtt ggcctataag acaatggt tcacaaggtg cacaaacc tagtcaaagg cacaaacc agaaatgtt ggcctataag acaatggctg tcacaagcc tagtcaaaag caacaaacc tagtcaaaaga gaggaaaagaa
acttccaatg gagctgtcca gccctcaacc gagtgtgtga aacgtggccc gcggcccggg acctggacgc gacacggtgt tgctatgctc	EMVFIATUTG VYIIKGYWPL IMIAAAWVLS MTVLYIHISL LEEAPPPALP ALNPASRWSK AARERKVTRT CYALCNATFK	accottcaatg atcaccattg gtcatgatct agcttagcct tcactcatgg tcattagcca atcggctagg tacttggttg cccaccatca agcoccaatt tggtcatct tggtcatct agcgccaatt gatgaggaca gatgaggaca gatgaggaca actgaaaaaa cccaagagtc aggagaca aggagaca atgaagaca aggagaca aggagaca aggagaca aggagaca aggagaca actgaaaaaa ccaagagtc aggagaca actgaaaaaa ccaagagacca aggagacca attaacatt
gc gccccgtggc tgataaggac.ca ccaaggaacg cccagccaca cg ccctccct gcagccgcgg tg tgacgaagca gacaggcaat gg ttgacgaagaa gcggcagat ga tgcgcaagaa gcggcagat ca ttctgctagc cttcatcctc tt tctgccagag ctgcatcct ct tctgccagag ctgcatcct ca acagcaccat caaccctgcc cc ggcacctgct gctgtgccag		ag attettacea caatgeaace accatetytygg caatgtetty ag traacaacta tracetgete ta accactacty accattygg caatgtetty ag traacacta tracetgete ca tgaacettyget tgaacetgace cagaacagge ctgetgateatgace accatette tectetygg cagetcatage cagetcatagace accageteatagacete accageteatagaceteatagaceteatagaceteatagaceteatagaagaaagaaa caggeteteteagaagaaagaaagaaagaceteagaagaaagaaagaaagaceteagaagaaagaaagaaagaaagaaagaaagaaagaaag
ccgccaccgc accagaaca gccatgcccg atccagattg gccacgccgg gcaaccagg atctttgcca gtgaacacct tgctacgtca aagaccttcc	<b>ਜ</b>	NM_012125 atggaagggg cetttggaac agoctgatca ctcaagacag atcttctcca ctggcttgtg ctgggtga agogtactc ctctgggaagc gatgggaagc actgggaagc acactgta ttccaattgg aaaatcatgg aaaatcatgc accagacgcaaaaccagcagcaaaaccagcagcaaaaccagcag
·	Muscarinic acetylcholin e Receptor M4	Muscarinic Acetylcholin e Receptor MS
	3226	3227

		2007.00
	Homo sapiens	Homo
caag tgtgtcccag tcaccctgtg gcacttgggc tgtc aaccccatct gctatgccct ctgcaacaga gctt ctctgccgat ggaaaaagaa aaaagtggaa caag ctacctga	<del>-</del>	atctgaagac cccggcacca tcttgggctg cccgtgggtg ctctcccagc agcagaaacc acctgaccgc ctcgctagct aactgctgga ccaagctggc cttcccccgc gcctcccag ggcgcatcgc gcctccag ggcgcatcgc gcctcatggtc tcattgtgaa cctggctttc tcattgtgaa cctggctttc tcattggaag tatttggat aacatttcac tacaccatat tgggtattac atacaccat tgggtattac atacaccat cctgtgacaa gacactac aacatttaca acaactac caatctatca acaactac atgactaga gctcaagac ttgaccagaat gaggtccatg ccagtcggaa atgactaga gatcaagac attccaaatc tgcctccatg ccagtcggaa attccaaaac ataccattc ccagtcggaa attccaaaac ataccattc ccagtcggaa attccaaaac ataccattc ccagtcggaa attccaaacc attccattc
atggtcctgg tttctacctt ctgtgacaag tattggttgt gctatgtcaa tagcactgtc accttcagga agacctttaa gatgctgctt gagaagtgt actggcaggg gaacaggaag	MEGDSYHNAT TVNGTPVNHQ LKTVNNYYLL SLACADLIIG LLVISEDRYE SITRPLTYRA DECQIQFLSE PTITFGTAIA KRKPAHRALE RSCLRCPRET TTCSSYPSSE DEDKPATDPV YLLSPAAAHR PKSQKCVAYK NPSHQMTKRK RVVLVKERKA YMLCYVNSTV NPICYALCNR	atctttcago cagacctcag cagacctgagact cgcgctgggact ccagttcgtg ggcagtggca gaggactgtc cttcaacago ctactgccgc gacggccatt tgctacagca ccctcagtgt actgctaccaga ctgtttccca aggacagactt catcaaagtt catcaaagtt catcaaagt gatggcaaa aggacaga catcaaagt catcaaagt gatgccaaa aggacaga catcaaagt catcaaagt catcaaagt gatgccaaa aggacaga catcaaagt catcaaagt catcaaagt catcaaagt catcaaagt gatgccaaa aggaccatc gatgccaaa aggacaacc gatgccaaa catcaaagt caaagacagt caaagacagt caaagacagt caaagacagt caaagacagt caaagacagt
	Muscarinic NP_036257.1 Acetylcholin e Receptor M5	Receptor 3.
	195 3227	196 3378

Homo sapiens	Homo sapiens	Homo sapiens
ρι	<b>د</b>	Ω <sub>4</sub>
CCaaaataaa LSSSPSALGL LAHKRMRTVT ASIYSMTAIA TLCFVQWPEG LKAKRKVVKM YNPIIYCCLN	ggacatcgat ctccagcgga tgaccaccgg cggcctcgga tgctcatcat acagcgccat tggcaaggt ttggcaaggt tgtgaaaggt tgcagaaggt tgcagaaggt tgcagaaggt ataatagcag ttcattcagt attattatca atgaacatac ttgtgggctg tcaacatac	ttctcagttt tcaggaggca ccagctacct acatggtgac gattttggcc LLIITVGLLG FGKVGCKLIP SVLLAVPEAV YYYHIAKTLI FNYNEIDPSL TSYLLSSSAV
tagcctccac WLQLLDQAGN LGNLIVIWII QNFFPITAVF YSKTKVMPGR GDTCDKYHEQ SFWLAMSSTM YTVTRMESMT	cgagagggag cgcgtgaaaa aacctctcgg gattcctgc tccctctacc gagtgacttgc gagtggact cgcattgccg agtagcttcgg agtagcttgg attagcattt ggagaataca gttgcttgtct tatcggtct tatcggtct	gttgcccggg agtgaaagct gagagaggaa aatgctaaga atggcaatgt VIRCVIPSLY ASRYFFDEWM CVKAMGIWVV FLIPLAIISI PNHILYMYRS CGRKSYQERG
aataacatgt GAATGAVETG AYGVVAVAV WYFGANYCRF AFLLAFPQCL GITLWGGELP WKYIQQVYLA RFHPNRQSSM SSFISSPYTS	cttgcagggg gggcaccgag gtctctttcc gtgggaaagg tgtgatcccg ggggaagatc cctggcggcc catttccgtg catcgttac agatgaatta acttgctatt caatctcct ggctaaaatt ccatttcct ggctaaaatt	tgtcacctta ttacctactc gtcctatcaa tctgaaaagc gaagcaggaa aa LLLLTCVPVD MQTSGALLRT IHSVLIFLVY FVGCFIFCWF
caaagacact AVNLTASLAA PSWRIALWSL VNFIYALHSE VNFIYALHSE LIMGITYTIV LIMGITYTIV LTAIYQQLNR SYDELELKTT RRNSKSASAT	ggacagtaaa tcagtcctca tgccctctaa ttcccgaggg tgatccgctg acatcatgct tcatctgcg tgcacaggt ggtacagagc tttcagaagt acctcgaagc tttcagaagt acctcatacc aaagcgcaca ggaaacgcct caaaccacat	gccacatgat catttgctct gtgggaggaa gtatgacatc ggcacagcat agacttagt VPEGWERDFL FISNLAAGDL RYRAIVNPMD YPQTDELHPK RKRLAKIVLV PFALYLLSES GHSMKQEMAM
ataaatgtga aattt IDGGGGVGAD WANLTNQFVQ DASMAAFINTL LKPRLSATAT VIILVYCFPL CWLPYHIYEI FRWCPFIKVS	gettgeecge tegtggggegt aaggagtteeg acggagtteeg ttgetgggea ceaacatet ceggtggaeg ceggtggaeg etgatecetg aaggeggaeg ttgateceat ttggtetatt accttaatta atggaaacac tgttggtete	ccatctctag tgtgtcaacc caactctgct tcagcggtgc ttactaaatg vTTGANESGS NSAMRSVPNI VFTLTALSAD DNSSFTACIP NEHTKKQMET VLSFGNSCVN
aaggtagtgt atgggcttta MATLPAAETW PVASPAPSQP NYFLVNLAFS NYFLVNLAFS PKQHFTYHII MIIVVMTFAI KRFRAGFKRA	gtgctgtgag taaacctaaa ctctgctgga cgcgaatgag cgggaccacc caccgtgggc gaggagcgtc cacctgccgtc gaggcgcgtc agggggattg gggcagttccc cttcacagca tattgcaaag tattgcaaag	tgagattgat tggcaattct tttcaaacagc actcagctct caattctgtt APSKSISNIS NIMLVKIFIT VIQLTSVGVS FSEVARISSI KSAHNLPGEY GHMIVTLVAR
NP_001050.1	NM_002511	. NP_002502.1
Tachykinin Receptor 3	Neuromedin B NM_002511	Neuromedin B NP_0025 Receptor
3378	3380	3380
197	198	199

Homo sapiens				
gttcctggct A gttagggaaa agcacaggga gtgcggagga ccagctccc qaatttct	gcctgaggtc ggtctgtccg tcaagtccag aaagggagag aacttggggg agggaccctg cctgcaggac	gcccccctcc gagtgcggtg cgcccagccg taggagggga tggctaatca gaggtccagg aatgggtcca acaatacggg	catcttgctt catgcgcaca cactctgtgt tgtcctgtgc cttgacagta ctccaagcga aagtccctg tgtggcctgt	tcgcatttgg tcagcgaagg ctggctgcct gaaggagtac caatcccctt ccgctgtgag aaagaacctg
cactacacag gcagacacct tcttgtttgg ctgggcgagg ctgcgcggat	cctcccgcc gaagtcgcc ggtagagagc cagagtatca gggacccgcg gaggcggctg	ggtggggttt ccccgcgagt cagcgccaac tcctggaccc ccaggtcggc gcaaaaacgc ctgtactgaa tgaaggtgga	•	tttcctacac accactacca ttgcggtcag tcctggacct ccactttgc tctcggcctt tcaaggctaa aggctaccaa
agccagagct taaactgtct cgctttacct cgccccagcc ttccggggtt aactctcqat	ccccggcct cagtcctca cagttttgt ggaactgggg cgcaaacgcc gtggtggctg gcaagcccgg	tgtgtttaag cacccgccca gcagacccgg gcgcgggctg agggccctct ccgcgtctcc ccaagtggac gtggaagaaa		attatatcat gctgcaaatg gtggtggtgt gacagccagg gccatgtgct aaggctttcc tccgtgacat
ttttaacctg actcaactta gatctgaact cagcgcactg gctggcgctt	gattetecag ctagggaecg tttecegggg cagetetege gtaggggtgg geagetgeag gagegggett gecaceaaaa	cctgttttct ctcccacctt gaggtcggca cgccgcgcg ggcaccttcc catcttgttt tggttgcagg gaaccagaca tgaactggtc		gcctctgggc cagtcctgga ggtgtgtgtg cgttgacatt ccacatcatc caactacaga ctctgaggtg
ctatcctagc aatctgcact tgggcggcag agaggagcac gtgcaatcct ctacacacac	gaggegeggg geetgeett ttegeegge gggaaggga ggtgaeagga gggtetgget etgeteeete	agcetetgea atetetgate ettggeetga teeggetgee ettgeetttg ggaetgeaca actettgtge aggetgatga etcetagagg	ttgaggtaca gcaactcctt ttttcattgc ctcttaccta cctatgccca accggcacag tgattattgg gggagtattc ggcctggcga	tgtatgtttt agaaccatgt ccaaaatgct tccagcttgc tcacagtgtt ggatgaacag atgccattca
tatcctatcc atcgagtctg ttgctgatca ccgcccagct tttgttctcg	cagococtac tecttegete cecegocttt gaggtetgte attegtggaa tggcacagta cetetgggta gacactgte	catcgcccgc ccacgctccc cccaggcgcg ctctgactgc cggaaccgga tcggacagac tcagttgtag ataggtgcag	accaagctga ggggtaattg gtaaccaact ctaccgttca cacctggtgc attgcctgg atcagcttcc gccatcttcc	ttgttgatct agtaaattga caaaaaacca ctccatgcct aaactcatct ctctatggct cagcggttgg
Neuropeptide NM_000910 Y Receptor Type 2				

	Homo sapiens
tta ctggaatcat  tta ctggaattca  ict tgaacaagaa  ict ttgaattit  itt gccaactata  itt tagataacaa  itt cgaagaggat  itt cgaagaggat  itt gacatctgga  itt gccaactcct  itt gacatctgga  itt gacatctgga  itt gacatctgga  itt gaatctgga  itt gaatctgga  itt gaatctgca  itt cgaatctgca  itt cgacctgcct  itt cctacacaca  itt cctacacacac  itt cctacacacac  itt cctacacacac  itt cctacacacac  itt cctacacacac  itt cctacacacac  itt cctacacac  itt cctacacacac  itt cctacacac  itt cctaca	EVQ VVLILAYCSI P LTY TLMGEWKMGP IIG LAWGISALLA YVL PLGIISFSYT QLA VDIDSQVLDL ALH SEVSVTFKAK
yaa gtggatctaa igg gtagtaagtt yag gtagtaagtt yaa gaagaaaact tcc ctgcttggct tcc ttcatcgcat yca ggaaacgatt igg agatactatt taa aaccaattgc cag aattacagga tgg agatactatt tta gagtaggagt cagaagcctc cgt ttttgtatgt tta gagtaggagt cataggaagtca ttt ccataggcat tcg aattgctgat gat ccataggcat tcg aattgctgat tct ccataggcat tct ccataggcat gag gaccgccag gag gaccgccag gag gaccgccag gag gaccgccag tcc ccatagccag tcc ccatagccag tcc ccatagccag tcc ccatagccag tcc ccatagccag gag gaccgccag gag gaccgccag	PEL IDSTKLIEVQ LVN TLCLPFTLTY SKI SKRISFLIIG VYS LSSLLILYVL AVS WLPLHAFQLA SAF RCEQRLDAIH
ttt taaagaagaa aac agttggttgg att tteetggagt gae ggtgggaaaa agt tegetgetee cca caggetetee att tgetatataa cca ttgttettaa att tgetatataa etg aaatgetgg aac cyetttatgg aac cyetttatga ttt ttteatttta aag agaagatea ate cagaagaaa agaagaatea agg aggagatett aag aggetteegg ate cataacea agg agegagtatt aag aggetteetgg cae etgttaggga tt ggagaaaggat gte ccatagettt cae aggtteetgg cae etgttaggga tt ggagcacagg cga agegagtatt aag aggtgaaggat agg agegagtatt cae aggtteetgg cae etgttaggga egg agegagtatt aag aggtgaaggat att ggagcacagg cga agegageae agg agegagtatt aag aggtgaagga egg agegagtatt aag aggtgaagga egg agegageae agg agegageae agg agegageae aggteetggga egg agegageae agg agegageae	PRG ELVPDPEPEL FIA NLAVADLLVN RHR CIVYHLESKI PGE EKSIYGTVYS KML VCVVVVFAVS MNS NYRKAFLSAF
tiga tttcccattt gaa aactggctgg ttgg tttacttaac act tttgattatt att gctgagagac ggaa ggtgtgcagt ctc cagggagacca aaaa atccatcagg lata aactgaaatt ctc agtgggaccaa sgaa tcaaaagctg tttc agtgggccaa titc agtgggacaa titc agtgggacaa titc aagttcatc tttt attgttatac lata aatattttt gga tacagagaa tiga tacagagaa tiga tacagagaa tigt taccagtatc ttt tgctcctacc saca aggaagaaa titt tattcgtgtc tac ctcattgtt tag ctacaaa tiga ctacacac tiga ctacacac tiga tacagagaa tigt tattcgtgtc tac ctcattgtt tac ctcattgtt tiga ctacacac tiga ctacacacac tiga ctacacacacac tiga cacacacacac tiga ctacacacacac tiga cacacacacac tiga ctacacacacacac tiga cacacacacacacacacacacacacacacacacacac	IKVE QYGPQTTPRG CFKS MRTVTNFEIA STIT LTVIALDRHR SFEI VACTEKWPGE SHYH QRRQKTIKML STFA NPLLYGWNS
caag tgaaaactga attcctggaa aacaaaatgg aatta tcaaagcatt atta tcaaagcatt act ggattgagga act cgaggagata act ctcaacact ctt caactctga tatt tctaatttc aact tgatactttt tttt taaacagata attc tttaggagta agga attgacaatgc ccac tgaaacatgt ccac ttaaaacag agga attgacaatgc ccac tatcctgttt aagg cttcaccaca gagt ggcttgggtc tgaa ctcgcttta gaga atcgcttggtt aact taaaactgt tgaa ctcgcttta gaga atcgcttggg ctcaccaca gagt ggcttgggtc tgaa accacaca gagt ggcttgggtc tgaa accacaca gagt ggcttgggtc tgaa accacaca gagt ggcttgggtc tgaa accacaca gagt ggcttgggtc tgaa accacaca gagt ctcaccaca gagt ggcttgggtc tgaa accacaca gagt ctcaccaca gagt ctcaccaca gagt ctcaccaca gagt ctcaccaca gagt ctcaccaca gagt ctcaccaca gagt ctcaccaca gagt ctcaccaca gagt ctcaccaca gagt ctcaccaca gagc ctcaccaca gaga ctcacttac	EADE NOTVEEMKVE GNSL VIHVVIKEKS PYAQ GLAVQVSTIT REYS LIEIIPDFEI REYS LIEIIPDFEI FTVF HIRAMCSTFA KNSG PNDSFTEATN
ggctcacaag ctgctgttta aagataaggc taaaagcaga attggtatta gttaggaact ccactgaaca ttgttcattc cgaatggctt aaagttct aaagttct tatttcagaa ggttaatct tatttcagaa ggttaagtaa ggttaagtaa ggttaagtaa ggttaaggaagg	90CGGGCCCC MGPIGAEADE ILLGVIGNSL VLCHLVPRYAQ SPLAIFREYS RIWSKLKNHV KEYKLIFTVF KNLEVRKNSG
	Neuropeptide NP_000901 Y Receptor Type 2
	3404

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Homo sapiens	Homo sapiens	Homosapiens
4	Δ.	<b>«</b>
tgaaaacaga cgtggacgtg gggtaacctc cctgcttatc ggacgccttcatc ggagaggcat cctggggatt cagcatcctg taaggtggtc cctgctcctc ctaccggcgc tgggcacatg ctgccacatg ctgccacatg ctgccacatg ctgccacatg ctgccacatg caacccattc	ETVVGVLGNL ETLCKMSAFI SLPFLANSIL IVCYARIYRR HHEAIPICHG	gattcaagaa ccacagagaa ttggctttat ttggctttat ctacggtaaa gctcaccttt gccatattat caattgccat accatggcta ttccaggtt ttccaggt ttattgct tcttattgct tcttcagaaag tgatcaacgt
ctccacaagg gccagattc taggggtcca acgtgacca gccagccgct tcgtggcct cacaggccta tcctggcaa tcctggcaa acaccacctt atgcaggct ttgccgtgct catcccat ccatcccat	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	agaaaggatt aagacacttg gatgactata gtaagtcttc aatcagaaga gtgctgtttt aaagtcatgt atttaatat ttaacagcaa tgttctccc tttactatgt ttactatat catacaagtg
ctcccaaaat tctgaacatt gagaacgtcg gagaaagcca tgctcctct tcgtcgtcc cccagcatct tcctggagt ggtaccatct ctggtctgt ggcaccatct ctggtctgt ggcaccaca aggagagt gcaccacaca	agglccaacc SEHCQDSVDV CLLCQPLTAV PSISQAYLGI RTIYTTELLL VVAFAVLWLF	caaagttaga gtattataac cccagtctgg ctatacattt gaaaaaagcgt tatcttggtt gatgtttggc ttcaactta atctaataat ttttgccatc tggttcagca cagaattgcc cagaattgcc cagaattgcc
ggccttgctg atacaacttc ctacagcatt gaggcagaag cttcctcatg gatctttgga ctccatcctc aggctggaag ctgtgtcctc ccactccaag ggctcaccac gggcttcacca gggcttcacca gggcttcacca gggcttcacca gggcttcatca gggagagag gggagagag	GCTGHGGG SKPLGTPYNF ANLAFSDFLM QLIINPTGWK CTESWPLAHH KQVNVVLVVW	tgacctgcca agctcgacga attctgatt tgattgggct tggctctcat cctttctga tggatcagtg cagttttggt aacatcccat ggacactagg aagaaacatt ctgattcata tagtttgtct acaaagaaaa
ctcacctcct tyggcacccc tcgtcacttc gtgtgactgt ccttctctga tggactactg cggtgacggt tcaacccaac gggtcattgc tcacaagaa cctggccact gcctcccact aggggcgcgt tcacaagaa cttggcact tcacaagaa	ggtccccgag IPKSPQGENR EKANVTNLLI SLVLVALERH ALEFLADKVV GTYSLRAGHM AMASTCVNPF RSNPT	auggtaacaac atggtaacaac atggtattta cttatttta cttatttta ggcaatctgg tctgtcttgc caatgtgtgt catatgataa gctactgtct gtggaacttc tcatggccat attctgccat attctgccat
atgaacacct agcaacccca tgcctgatgt gccaacctgg tacaccatca cagtgcatgt cagtccatct gagaatgtct tgtaccgagt ttccagtact ctgcagaggc aagcaggtca ctgcagaggc aagcagggca ctgcatgtca ctgcatgtca ctgcatgtca ctgcagaggca agcagaggca	gccccaaag MNTSHLLALL CCMSVTVRQK CCMSVTVSIL ENVFHKNHSK LQRQGRVFHK NLIFLVCHLL NKLIFLVCHLL	gaaaggctat agactatact agactactact agatgactta ggggaatcta cttcccata cacactgacg gccttttctt tgtcaggtat cttctgata tcacagtctt atgttgatg agttcagtat tataagctgt
MM_005972	NP_005963.1	NM_006174
Neuropeptide NM_005972 Y Receptor Type 4	Neuropeptide NP_005963.1 Y Receptor Type 4	Neuropeptide NM_006174 Y Receptor Type 5
3405	3405	3406
202	203	204

									Ното	sapiens							Ношо	sapiens																						
catgtgtgt				ya tattagtatt	ta atgacaatct	yg gcatgatgtc	ag ctgatttagt		F VSLLGEMGNL P	FG KVMCHIMPFL	AI CSPLPVFHSL	JS HISVCRSISC	YS KKTACVLPAP		IC HLIGMMSCCL		gg cctggggaac A	gc cgggagacag	gg aggagagcgg	cg actggacggc	gg teceegeetg	ga gccgcggact	ac gccggccgcc	cc gggcttcggc	ga gctggacgtg										tc ggtcctgaac				ca gtggactccg	
aagaagacag	atacttccag	ccaggggtcc	agagtaaaac	accatactga	actgatttta	catttgttgg	gggattaaag	ttt	<b>OYFLIGLYTF</b>	SVLLDQWMFG	ATVWTLGFAI	ILPLVCLTVS	FIKKHRRRYS	PEENSDVHEL	RHFKLVYCIC		tcctcggggg	agcgccgagc	gggagtccgg	gcgcttcccg	cgttcatcgg	gccggacaga	ccccgggcac	tgctggcccc	ccagcagcga	acctggcgct	-		tgcaccaccc	cctgcaccta	tctgccaccc				tggtcatctc	-				acgcactctt
aagatatagc	ccactccaga	taagttcata	tcatgaattg	ctacagactg	ccatgtggta	ttgcatttgt	tcttaataat	attctcactg	DDYKSSVDDL	VLFCSPFTLT	LTANHGYFLI	FTISLLVQY	LSGSHKWSYS	PGVPTCFEIK	TDENDNLISN		ctgggcgctg	acccgtggca	gccggaagct	tctgggtctg	cctgggctcg	ccccggaggc	gcgccgggaa	gaggaggcgc	ctggcggcac	accgccgtgt	acgctggcgc	agcctggcgc	ttcatctggg	ctgcgcgacg	tacctggcca	aagttcatca	atgggcgagc	accatccaca	ttccccatgg	gtacgccagg	agcatggcca	gcagtggtca	tgctacatct	atggtgacca
		cttcatccag 1		gaagtgtttt (		agttggtgta (	tatatgggtt 1	atatgtaata a		GNLAFSDILV '	HMIKHPISNN 1	SWPSDSYRIA	PSKKSGPQVK ]	SQLSSSSKFI	WMPLHLFHVV '	нсгнм	ccgagccggg	ggcacctgga			cgcgccctcc	ggacttccag	caacagctcc	ggccggactg	ggagcgcgtc	agtgctggtg									gtccttcata					ctacttctac
ttcatcaaaa	gaaagacctt	agtcagctct	cctgaagaaa	aagagatete	tggatgccac	aggcatttca	aatccaattc	cactgtcttc	KTLATENNTA	NOKTTVNFLI	ILISIAIVRY	LLSSRYLCVE	ENEMINLTLH	ILPENFGSVR	TILILVEAVS	GIKADLVSLI	cccgcgcagc	ggagatcgga	cacgggttct	ccggagcccg	gtcttcgcca	actcctgccc	ccatgcgcct	agcgggcgca	gcaacgcgtc	tctactccaa	gcaacacggt	cggtgcatta	tgcccgtgga	gctgccgcgg	ccagcctgag	tgtcccgaag	cggtgcctat	gcggcctggt	acaccttcat	ccaacaagct	ggggcgagca	acggcgtgcg	acgtgcggcg	acttctacca
		ctctgtaaga	tgagataaaa		tgctgttagt	tatttcaaat	ctgttgtctt	gtcccttata	MDLELDEYYN	LILMALMKKR	QCVSVLVSTL	VELQETFGSA	GLSNKENRLE	ERPSQENHSR	KRSRSVFYRL	NPILYGFLNN	tcaagctcgc	cgcgcggttt	cccgaggaac	agcccggagc	gegeeegetg	agacgcgccc	ccagcgccca	gaccccttcc	aacgcttcgg	aacaccgaca	ggcacggtgg	ctgcagagca	ctgctggcca	ggcgacgccg	ctcaacgtgg	aagaccctca	gccctgctga	cagcacgccg	atacaggtca	accatcatcg	tgcacggtcg	gccctgcggc	ctgccctacc	ttcctctatg
									NP 006165.1	I							NM_002531	1																						
									Neuropeptide NP 006165	Y Receptor	Type 5						Neurotensin	Receptor	Type 1																					
									3406								3408																							

cgtctgagaa gttgacgggt ggatggggtg ttctggcggc ggtctctagg tegectaage ggagccacag ctttgcccca cccggacacc caagaacggg cacaageetg aaacagggcc ctgggcggaa cgaggacctg gcctctcag tagacgtggg gaggccagcc gcctcccctc cacatgggag gcagaagga ggcccagagc tgcctggtct ggtgtgtcca ctgctcagga ccttgggcca ctctcaggat tgtcttgatg gacacacca catcttcctg agccttctcg ccgcgagacg gtttctcatt tctttgaaag ggagaaatta agagaaggaa catgtccaca cccgcaggct cctccccag gggcccatcg gagggacca tcagtttccc ttcggctcac actttgcccc gcccctatcc gggctctgaa ggctcctgga tggtcgttcc atgcaccaca gagaaggagc gagactactt cgacccagga tggctgttga aaccccaggg agaacggtgt acttccgcca ggaagaggcc gcaatgccac cctggccatg gggtcaggca cctaacccat cccatctcc cctctaacaa ggatggttcc ctgctgttcc cagccccagt cccatgcccc ggcaagctgg gcagcccca ccagacccca gccaggacac ctcgggctcg gccgtggcca tctggagcca ggggcgatgg atttgtcacc cttaagaagg ccaggagctg tcagagcagc atagtctgct agaccctcgg ttcccgttga ctcccatgac ttctctggac cgcttggatc cacaggaccc gctgtggcct ttcctdccaa ccctcaggct cggaacagac acacqtqtcc gtctctgcca caggggctct ggcttcaggt gcacagactc ccggccatgt aagggccacc ggtcggtgca ccttctctgg ccactgccct gaagtcggct cggcgcagga cccaccctc tcagactaat gccatgcaga gcaggcagct ctggaatggc tgcccgagtg caggctgagg atgtgggaca gaaaaagctg aggcccctgg ccgggaccag ttccctgtc ggaacagatg acctctcca ccaggaggag gccttgatgg cctcccaccc aggaaaaggg dacaaccaa tcggggagtc cttcaggcct gtacaacctc cagcaaccac ccacccggga gggaccccc ccaactcctc tctcccagat ttctttgttc tctgtctagc tgactcgccc cacctcgcc atgggctggc ggccaaggcc aagatcttca tgtagctgtg gagaaggga ctgggctgag atgactagcc gagaagctgg cttcaaggga gctgcctgca ccactttgcc cctctccaac ttcgctgcac cccagtgccc cccacagag gatgtccaga atgctaaggc agcctcagac ccccatctaa ggatccaccc agtggatgcc ggctgtgact gtaggtaggg cccggtgtgg cggaacgtgt ccgggcctcc tgcagaccct ctccagcacc caggaactca ccaagcagtt tatctgcagt aggcagccct ggccttcctc tgcacttacc tgccaggtcc cacagagcac tcagcctttt aatgctacag ccacaaaatc gtcaggccta agtctagcaa cagacagggc ctgtcctgga gagaggcag cggggtctgt accccatcct cctgcctctg acagogtgto ctgtgcgccc agagcagccc tctgaggcct gggcctgtcc agagcgctcc aaaggcagtt ctgggtgggg ctgcacccc gggcctcacg gaaagctccc tccctcccac aaggacaaa tcctcaccca cctcagcctc ggggcctggt gtgctttgct gtggggcctt gccggcagcc gccccggcct acagtcccag ctctgggctg ctgtgttcag gccagccagg gcctcggttt taatttctga cgccggatca ctgagtaaga ggcaccgctg atccaggctc ctaagagaag gaagcaaaag gggaaatggg tggtcttggg gcccagggga gtcatcagcc gtgggctcag gactcagage ctggatgaga gtctctgggg ctcctatctg ccaccatca ctgtactagg cccgacagac tgcactggag agtgtctcc ccagaacaag gtgtgcggca atgaaatgtg tctctgaggc ccgtggcttt gcagctccaa ccgtggggag caagcccaaa ctcctccca ggggctcagg cgcattccgt tggcttcagg ggcagccctg atgagagtcg tccttgaacc agcacagagg gagetteget ggtgctctga gccacactgg aggaaggccg

	•		
Homo sapiens	Homo sapiens		
gccaggtcat gatgtggccc agtccggagc ccctgagccg ccccactcc caccatctgc ggccgaaggg cctcgatgtg LAPGFGNASG NASERVLAAP KKSLQSLQST VHYHLGSLAL CTYATALNVA SLSVERYLAI NRSADGQHAG GLVCTPTIHT	AEQGQVCIVG GEHSTESMAL EPGRVQALKH DEQWTPFLYD FYHYFYWYN ALFYVSSTIN KRPAFSRKAD SVSSNHTLSS NATRETLY cggctgaggg atttgcaggg cagtggcatg ttactactacg gcagccacct tcagggcatg gttatctacg gcagccacct tcagggcatg ctgccccgc atttgctgt caatgccagc gtcaccatcg tggggctcta cctggccgtg gtcaccatcg tggtgctcta cctggccgtg acctccag actcctcag gcaccccaca gaccaccacc	aacctggccc tggccgacac tacaacatgt tcaccagcac atctgccacc ccatccggc caggccatct gggccctggc caggtcgagg ttgccatctg tctgtctgct acagcctcat cgagagaagg accggaacct ttcgtgggct acagcactc ttcgtgggct acagcctcat cgagcagcg agactgccgt agctgcctca acccatcct actgccaagg acgtgacgcc ctgggatggg ctttccctg atcatgggcgt tactggacgc ctgggatggg ctttccctg atcatgggcgt tactggacgc ctgggatggg ctttccctg atcatgggac aggtcactgc ctgggatggg ctttccctg gagctcacac aggtcactgc ctgggatggg ctttccctg gagctcacac aggtcactgc ctgggatggg ctttccctg gagctcacac aggtcactgc ctcctgttg gacgtcgagg gacggccgt tactggagcc ctctctgtt gacgtcggag gtgacgccttct tactggagcc ctctgctgt gacgtctgcqag gtgacgccttct tactggagcc ctctgctgt gacgtctcct gcagccctgt tactggagcc	
ctagcttgcg tcggtcatgg caaacgccca caataaaggt RAQAGLEEAL NTVTAFTLAR CRGYYFLRDA	NKLTVMVKQA VRRIMFCYIS CLCPVWRRRR gactgccagc agaagtaccg gcacagtctg ccacagtctg gaactgcctt ttacatctt	ttacatctt cacggacatc cattgactac ggcttgcaat gggttactgg gggttactgg gggggttcatc ctcggctcatc agtggctcatc ctcggctcag ctacgtcaac ctacgtcaac ctacgtcaac actagtgac acctagtgac ctaagactga ctaagactga ctattggct ctcttggct ccatgctggc ctcttggcct acatgctggc ctcttggcct ccagactgcc	, ,
•	V VISVLNTIIA I AFVUCNIPYH N FRHIFILATIA a aggaggttgc t tccccgcgcc t tgagccccaa t tcctgcccct t tcctgcccct		
cgacacctga ccctgcgtgc acggcacagc aacaaacccc MRLNSSAPGT YSKVLVTAVY PVELYNFIWV SRSRTKKFIS	TEMSFIFEMV GVRVLRAVVI PILYNLVSAN cctgctctgc ccagctccca ctgtccctct ctgtccctct tgtgtcggag tgtgtcggag	atgaagacag ctgacgctgc actgccatga actgccatga ggtgttcccg ttctccttca ttctcttca ctcgtgtgga actcggctgg ttcgtgctgg actcggatgaga actcggatgaga actccgcaga actccgcaga actccgcaga actccgcaga acctaccgg cctccatggc gacctaccgg gacctaccgg	1
NP_002522.1	NM_000913		
Neurotensin Receptor Type 1	Opiate Receptor- Like 1 (OPRL1)		
3408	3452		
207	208		

	Homo sapiens	Homo sapiens
cc tgtgcagccg tg cagaccccga gc aggcctcatc ac cagcgagagg ca accagccct tg ggtgggagaa tc ctttgcttga ga agagctggtg ca agatggctct ag ccagcatggt	GL KVTIVGLYLA P TD ILLGFWPFGN AV NVAIWALASV LV ISVCYSLMIR GV QPSSETAVAI NR SIAKDVALAC	reg aacacagece A ge cacgeagete reg cacgeagete rec egggtecece reg cgacettete rea tttgttgac rea teacateatg rea teacateate rea teacateate rea teacateate rea teacateate rea teacateate rea teagaggaget rea teagaggaget rea cetgaateca rea teagaggaget rea teagaggaget
te egactecace ag tecetggetg ge tgeaeggtge ce tteaggagae tg tggaeegtea ce gegtgaecac ct getetgtttg tt acageetete tt acaageetete tt cacageaga agetgtggaga ag ggetgtggtg	NA SHGAFLPLGL IV LITLPFQGTD LD VRTSSKAQAV II LFSFIVPVLV VQ VFVLAQGLGV LR RDVQVSDRVR	ige egegteegeg ige gggaegeage fee tgggaegeage gg ecgegggeee itg ecttetgeet itg etttetgeet fge tgttttgeta ca tectgetet ea cetagteea ice aaagaeagt ice aaagaeagaeagt ice aaagaeagaeagaeagaeagaeagaeagaeagaeagae
ac ttgcctgttc gg gggctgcag tt ttctgtgtgc cc cccatttccc aa ctatatgctg gg ggtcttgact gc ggtgaaggcgc cc tgcttcattt gg aggatggct cc tgcttcattt gg aggatggctt	HS LLPPHILLINA YI FNLALADTLV YV AICHPIRALD DY WGPVFAICIF VA VFVGCWTPVQ CF RKFCCASALR	ge acaccegage ac gececaege ce gececeaege te etgegegetg ce tgegegetg ge ttetggtgge ge ttetggtgge dg agggagece itg agggagece itg tacacggaga ttg etggttttaa itg agatgcaaa ttg aggttgeaa ttg etggttttaa itg agatgcaaa ttg etggttttaa itg agatgcaaa itt gagatgcaaa itt gagatgcaaa itc tacaggetgga itg etggttttaa itg etggttttaa
ce cetggaggae the gecaagety ce tetgaagety the gggeceaace ag gtgeaatgaa gg ttgetetect te tegttetect te tgetgegege te tgetgaggege te tgettgagege te tgettgagege	2G NLSLLSPNHS HT KMKTATNIYI ET LTAMSVDRYV EC LVEIPTPQDY RR ITRLVLVVVA YA FLDENFKACF	eg gggtcctggc cg ggcctcccc ca gctgctgccc tc ggtccgcatc at ccggtacatc ta cacggaaatt ta cagtgcctgc gg gcctggcagga ct ggcgaacccc gg gccaggacct tt atagcttttt tt attctatctt tt atctatctt tt atccatggaa cc ccagaacc tc tttggcttc tt caaaatcatg tt atcctatctt tt caaaatcatg tt atcctatctt tt caaaatcatg tc caaaatcatg tc caaaatcatg tc caaaatcatg tc caaaatcatg tc caaaatcatg
t ggagctgcca c aggagaaagt tc ggaccgcac ta gcttgactct tt ccctccagcg It gggggcagg ia agtggaggc ig agtcccac if aggcccgt tc tgagcttgct cc tggcagggct		og caggocagag t tocagocagag gg gccttctgca gg gtatggtat gg atatgaaca gg tatggtat gg tatggtat gg tatggtat gg tatggaaca gg tggccacca gg tggcaaca gg tggcaaca gg taaggaag ga tgaaggaag ga tcagattttt tg tcagaactgc tcagaactgc tcagaactgc tcagaaca ga ggaaggaga t tctcttgtc at tctcttgtc
ccctgagctt gggccacccc gctgacctc cctgaccat cctggccat gcttccag gttcctgg agccagaggt gccacagagg ggcacagaggc gggtagggcc	1 MEPLEPAPEW VCVGGLLGNC ALCKTVTAID VGVPVAIMGS RLRGVRLLSG LRFCTALGYV KTSETVPRPA	atgacccagg atggcetccc gtgctgagct ttggcgctgg gcgacgtcc ggctgctgg agcgtctgg agcgttatctgg gcgttggggc gcttatctgg gcgttatctgg gcgttatctgg gcgttatctgg gcccttttac gtgatcaatg ttgaaacctg ttgaaacctg ttgaaacctg gcccagggat cagtctccca
	NP_000904.	NM_000273
	Opiate Receptor- Like 1 (OPRL1)	Ocular Albinism 1 (Nettleship- Falls) (OAl)
	3452	3513
	209	. 210

WO 02/061087 PCT/US01/50107 195/448

Homo sapiens	Homo sapiens
cagactcaac gaagtgtagc ctttaggata accactctac aagtaagtgt ALCLGSGGLR VWLGFPNFVD LSTILLYHIM ILFQKTVTAV EMQTDINGGS SLTTSAAEGA KNEGDPALPT	iga agcatgactc A igc cacttcaaga ac ctcacacag ist tcctgtgctg gatattcttt ist gatattcttt ist gatattcttt ist gatattcttg gatattcttg gatattcttg gatattcttg ist gatagatgacag ist ctctggtcaaa agcatcaaac itt ctatactgaag ist tttggtact ist ctatatgaag ist cttatgtaag ist caaaagagga ist aatatattaa
	ttca aaatgagtga aaaa acacttgggc aaga tcaattcaac actc agcagatcat ggag tgtcaggatg aaga cattgttat tatc acgtcacacat tatc acgtcacacat tatc acgtcacaca ttgt cagtgatagt aacc agagtgttag agtc ggaattccac gtgt tttttgtctg accg agctcattca ccgt tttttgtctg accg tttttgtctg accg tttttgtctg accg tttttgtctg accg tactatccat ttca aaaaattc accett catact gaca tttccagaat ccta ccctttcca acc aaaaaattc acca ttacaaaattc acca aaaaattc acca aaaaattcac acca aaaaattcac acca aaaaattcac aatc ataaaaattc ttca ataaaattcac aatc ataaaattcac aatc ataaaattcac aatc ataaaattcac aatc ataaaattcac aatc ataaaattcac aatc ataaaattcac aatc ataaaaattcac aatc ataaaattcac
• • • • • • • • • • • • • • • • • • • •	ctacaatgag aggtatttca gcaggatctt taatggaaaa aaacaccttc actgataactc ttcagaactc ctgatcactc tttcatcact atctcaaga tttcatctgcc ctggttgact ggttctctgcc gtgctcttct cagctttgac aggtattata aaatattatt ctcaccaac gaaaagtgaa ctgggacgga ctggattgtg tttcttttgt gtcccacctt aagtcaagtc atcagcatc gtgtttgtgt ctacacaaag atcactctgc tttctttcta tgccagaccg tatgaaagaa ttcactctgc tttctttcta tgccagaccg tatgaaagaa ttcactctgc tttctttcta tgccagaccg tatgaaagaa ttcactctgc ctacacaaag atcactagac agatactttg tgagttccta tcattacat agatactttg tgagttccta ccacaagaaac atacccatca agatactttg tgagttccta cacaagaaac caaaagaaac atacccatca aaaaattaat acatacaatt aaaaattaat acatacaatt aacaaattaat acatacaatt aacaacaacca tcaggcatct
	accttggage ctaca aggectagae geagg teactgggea aaaca aatcetgget teaga tetteattge gggaa tgactttee ttte ttggggtgaag ttte ttggggtgaag ggtt ttggggteag gggt ttggggteag gagt ttggggteag aggt ttgctgttee aggt gaatctttaa gtee geagaatee ctaga aaatctttaa gtee geagaatee ctag ttgtagaate ttgg ecagaatee ttgg ecagaatee ttgg ttcattattta tttet ttcattattta tttet ttgaaagcae agat ttgaaagcae agat ttgaaagcae tteag etttgtaaa aget ttgaaagcae tteag ttgaaagcae tteag etttgaaagcae tteag ttgaaagcae agat ttgaaagcae teaga agtttattaaa aget ttgaaagcae agat ttgaaagcae teaga agtttaataa aaaaa tctattaataa aaaaa agtttaataa
	gaacagtott acc tcacagatga agg cgacaaacgc tca aaatcttaag agg cctccagatg tct tactgtatgg tct tacgtgacca gct attgtgttct ttg acttctttca tcc aaataaaat gtg atcacaaaga aga aagaaatcta gcc taccatattg cca tcaaaagaaa tct tgcttggacc cta aattgcaca ttc aatacaacac ttc aattcattt cca tcaaaagaaa tct tgcttggacc cta aattcaacac ttc aatacaacac ttc
NP_000264.1	NM_014879
Ocular Albinism 1 (Nettleship- Falls) (OAl)	UDP-glucose Receptor (KIAA0001)
3513	3.54 4.4
211	212

	Homo sapiens	Homo sapiens
aggcacagtt gatttgaaga gtatttcatg ttitttctga ttacgtcatt agagaaacta aalagagatga aatgggaaag ttacattaa gaaaacaaac aaaactaaat ttctttcaaa	PSSKSFIIYL P FFGLISFDRY KCIELKSELG SSRNIFSIVF DPIIYFFLCQ	gtctgcgcgg A ccaggcacag tcgcctcctg tccagtgaga gggccgggag tcaactttag tcaagaggag gccctacac aaggccgggg gccctacac aaggccgggg gccctacac accccgcgg gctcctggcg gctcctggcg gctcctggcg gctcctggcg gctcctggcg gctcctggcg gctcctggcg gctcctggcg gctcctggcg gctcctggcg gctcctggcg gctcctggcg gctcctggcg gctcctggcg gctcctggcg gctcctggcg gctcctggcg gctgcccgc
acttgaaagc ttttttcct ccttattgat agaaaattt ctacaaagac ggctttactg gtatgggaa tctactggcg aaatctaaaa cattttctg atgagctacc ttttcaaatg	GVSGWIFFYV FYVNMYVSIV NQSVREVTQI SRNSTSVKKK LLLSAANVCL	ctccggaggg agcctcagc caaccgaggc atccaactc ccggggggag ccgggggaac ttgcagtggc agcccgggc agaagggctcg ccaactggag gtctcatcct cacgccgg gtctcatcct cacgccgg gtctcatcct cacgccgg gtctcatcct cacgccgg gcccgacct agcccgacct cacgccgac gcccacaga tggtggccgt ccaactgcc agcccaga
ttaaagacta aaaagtcagg ttaagaaacc atacttagca aatatttt ttttaagta ctgttcaata catatatta tgatttttt tcacaaca ttactgact attcatctat tcacactca	MVEIAGILLN VEVCRVSAVL LLAVPNIILT KKIFKSHLKS EILRYMKEFT	
aacactgtcc gtttgcaata agacaatcac tattaattgt atacatgcta tgttagaata gcaacttccc caccgtagaa caacgaaact aaatgaaact tggcatacgg gctagaaact	TOOI IPVLYC DSGLGPWQLN LSVIVWMLML LLIVEYTAIT TEAHYSCOSK DIEDIKDGNT	cgctgggcga cgctgggcga aggctgcgga ttaggtggagc tcagtcgcag cagtggaggt cgtggaggc catggagggc catggagggc catggagggc catggagggc catggagggc catggagggc gccagccgc catggagggc gccagccgc catggagggc gccagccgc catggagggc gccagccgc gccagccgc catggagggc gccagccgc gccagccgc gccagccgc gccagccgc gccagccgc gccagccgc catggagggc gccagcgc gccagcagc gccagcagc gccagcagc gccagcagc gccagcagc gccagcagc catcaccttc ggtgggcatg
aattgttttc ctagagagct gctgacaccc ggaaqagtgaa aggattctgg gaggttctgg tacgttatca tactacacata tcttggagaa tcttggagaca tcttgaactg aagtaatgtt	DESCEQUILI SLTFPFKILG FIQSVSYSKL FVAIFWIVFL IARIPYTKSQ HIBLERSONNI	ctgggaccaa agacgccgtc agacgccgtc agacccagcc actggggccg ggactcggtg gcttgtggcc agatccgtc gccggatccg ccgccagggt gcgccagggt gcgccagggt acgccagggt acgccagggt gcgccagggt gcgccagggt gcgccagggt acgccagggt acgccagggt acgccagggt acgccagggt gcgccagggt gcgccagggt actgcagggt tcatgaaggc tcatgaaggc tcatgaaggc tcatgaaggc actgcctggc tcatgaaggc tcatgaaggc tcatgaaggc tcatgaaggc tcatgaaggc actgcctggc tcatgaaggc tcatgaaggc tcatgaaggc tcatgaaggc actgcctggc tcatgaaggc tcatgaaggc tcatgaaggc tcatgaaggc actgcctggc tcatgaaggc tcatagaagaagaagaagaagaagaagaagaagaagaagaag
tctagtatgt tgatgaaggg agcaggaaaa gcactgcaaa tagcactttg taatgagcct aatattggca ctgggaacatt tgagtgcaaa ggattttact tcttctctg acattttta	MINSTSTOPP KNIVIADEVM YKIVKPLWTS RKWHKASNYI VFFVCFVEYH	retheragger cyggacatca cyccatca dacctagat cycacagat cyca
	NP_055694.1	NM_000916
	UDP-glucose Receptor (KIAA0001)	Oxytocin Receptor
	3544	3582
	213	214

atccaagatc atctttgtaa ccaatggaaa agaaaataa tgcaagtcaa gatggacaag gtttaagaag aagatacaag tgaaaacgaa acttaacaaa taaataaatg tactatccta ttacagaaat caaataagcc cgataaaggt aagagtacag acaattcaat gtgcaaaaga acctatcaa tatatgataa acccaccage tccttggggt tcagccatca tgccctgggc ttttacttct gggtcaggaa gaagggtggt ctggggtcct aagaccatct taaaactatt cacacacaca cgatgggggg gatecgeaeg tttcttcttc cttcatcatc gctgttcacg ctacctgaag ctttgtcctg tgctcctagg gctggctttt ctcaaaacgc ctccaaagaa attagggaaa acaataaaa aagcctcggc gctccgccag actegteete ccacggcgtg ataagtgctc atccctccc gataggggac aacccactgc tccagtatat gtgaccaatt cctcagatgg cgaacaaatg attaccttgt agaagctaat aaagaagaag ctcacacaca gcaaggtttc acaaacaata ataggaatca aaagaaggct aagatggcaa cccagatatc tcataattta gagcagaata ggttcccaag tgatatgcaa ataggcatag acacaagcaa gattgaaaag gcgagtcata aacaataagg tctggcagaa cggcggctgg gctggacgcc ggatctacat ccaaggccaa agaaagaaac gataccaaag gaaagaaatt tagtattgtt gaaaatcata tttttgacaa cttataacac aacggtttga atagacattt attattattc taggatggct ctgtgctggc gtaatttcac tataggattg tgcctttaag agagaagggg ccagatagga tcctaaggaa agcaagttcc tatactagca aaagaataaa atgcaaggga cttcctgatt tagacatacg accgagacaa caaaaatcaa aagcttttgt gaaaatatt agcttcaaga ccagaggcd ttcatcgtgt gcgcccaagg tgcaaccct ttcctgtgct aaaaagagca tcccagccat atcagtttgt gatggaagat taccacctg ggggttggga aaaatgttta aagctcatct ttacaatcac cgtgcagcgc agaactaata tgtatttctt ataccatcag tcataaagaa tggattcaca ggtttaagga ggtcaattga aacaaatggc acactatgtg tcaagatttg aatactcaac gagtgccagc ggtaagcagt aaagtgtatt acttggggtta atatagaaaa tacaaaattg ggatcagact ataaaatctt tcttagatat cagaatggga gaggagetge gaggctcagg tggcctccat cacgtacttc tcctggactt aagcggtaaa ggtagcccta ataaatgtat caatccttat ataaataact cggccttatc cagcagcgtc cgtgctggcc ggatgccaac caacagctgc taaggtacct ggccgaggcg tgggagagac acctattaga agaaaagaa acagttttgt cacagctatt tccatttata gactgaaaac ctgtgttcat agattcagtg gtcccaaaat acaaagttgg ttatacttac gagtettte acctttactc agctgaaact ggcagtggtt ttggacttaa agataacctg tctggaatat aaaatgggct gcacatgaaa agattccagt gggtggagag tggcctccta ttgtttttc atattgtgaa tcctgacctc cttgtcagag aaaaatqaat gtgtgttact cagcggcggc gctccagcca tgtttgtgta ctggacttgg ctacctgcta ctttcatcat ggagcgtctg tccacgaact tggcgcgtgt tggccagcct gctgcagcct acaagtgcaa gaaagacatc ccttgaatta atcaatttaa ggccacctct agtgagtggc tcattctggg gctaagatcc ggcgcagtgg catttgggaa tgcagatgac cacacacgca atcaatatac gttaaataat actgacatgc tgataagcta ttgaaaaga aatcagctca atatqaacac agagaaagga atgaggttgg taaatataag aataggtaaa gaaggtgaaa ggggcttgta tggctactaa aatcacaatg ggcagacgcc agccatcgca tgatggcgta ggcttcagtg gacaacacc gtccagtgtt tggggaccag atcgtgctcg gtcaagatga gtgcagatgt gtcatgctcc cagggccagg aagaccgctg cgcgtggccc

	Homo sapiens	Homo sapiens
taaattgttg gtgggaatgt caaaaagtta aacgtagagt aagagaaatg aaaacgtaca atttgtaata gccaaaaagt aaaatgtggt ctgtccacgc acacatgcca cacatggat aagcccacat attgtctgac gagtgaatat agattagcgt ctaagggttt ggggtttctt	VEVAVICLIL LLALSGNACV P ITFREYGPDL LCRLVKYLQV WLGCLVASAP QVHIFSLREV GLISFKIWQN LRLKTAAAAA VLAFIVCWTP FFFVQMWSVW	tggccccagg ccttgtggc A tggccccagg ccttggggacc caggtccagg cgtgtgcatt tggagagcag gggctggtca caatggcacc tggatgggg gtacgtgctg ctgctgtgt cgtggcgct tacatcttct gttccaccctg gctgtgtctg cttctacacc aacctttact cttctacacc aacctttact cttctacacc gcgggaccact cttctacacc acctttact cttctacacc acctttact cttctacacc acctttact cttctacacc acctttact cttctacacc acctttact cttctaccac acctttacc caccaccagg gcgcgggg caccaccagg caccaccagg ctcgtgggg ctccttacc ctcgctggc ctcctaggg tgcttccc gcgcgggg ctccttacc gcgcggg ctccttacc gcgcggg ctcctaggg ctcgtgac ctcgctgac ctcgctgac gtcgtacc gcgcggg tgcttacc gcgcggg tgcttacc gcgcggg tgcttacc gcgcgagg ttgcttacc gcgcgagg ttgcttacc gcgcgagg ttgcttacc gcgcgagg ttgcttacc gcgcgagg ttgcttacc gcgcgagg ttgcccgagg
ggtagaaatt ggcagtacct gtatttaccc tagcaacatt aatggaaat tgaagtactc ccaggtgcaa aatctatata ggtgattgtg	PPRRNEALAR FQVLPQLLWD RTDRLAVLAT VPVIVLATCY IRTVKMTFII	agcgcagtgg aggctgggcg cagcccggtc atgacaccat aggacttcaa gtctgaacgc ccacatatat tgcgcttatta tgcgcttatta tgcaccggtg acgctcgccg tctactttgt ccgagctctt tgccctttgc cctacgggac tggtgctggc aggttaccgg cctacgggac tggtgctggc acgcccggc cctacgggac tggtgctggc acgcccggc cctacgggac tggtgctggc acgcccggc acgcccggc cctacgggac tggtgctggc acgccccggc acgcccggc acgcccggc acgcccggc acgcccggc acgcccggc acgcccggc acgcccggc acgcccggc acgccccggc acgccccggc acgccccggc accccccggc acccccggc acccccggc acccccggc acccccggc acccccggc acccccggc acccccggc acccccggc acccccggc acccccggc acccccggc acccccggc acccccggc acccccggc acccccggc accccccggc accccccggc accccccggc accccccggc accccccggc accccccggc accccccgc accccccgc accccccgcccg
ggtgaggatg tagagaaact cctgctttga aaaacagttt cccaggaatg ccactcctag aacttgtaca ccaatgttca caaatgtcta ccaatgatg tattagactc taaaaagaaa aacttgctaa gtgaaagaag tgcaatgtct aaaatggacg ctggaggctg tgagagatga ctgaaatgtt cgaaattagt		
aacgagtgtc gg aaatggtgca cg gaccatatga cg tacacacaaa ag ggaacaac cg aatggaacat tg gagccttgaa ag ttgcattgaaa tt	1 MEGALANWS LIALRITROK VGMEASTYLL ADGVEDCWAV AEAPEGAAAG DANAPKEASA SASKKSNSSS	cggcacgagg agcagcacta tgtttttcct catgagtgag gggcgatggc cctacggcgt tgtgccgcct tgtggcccct tgttggtgct tgttggtgct gcccttcag gcccttcag gcccttcag gcccatccct tgttggtgct tgctcattgc ccaagcgcaa tgccattcca accctcaa acccctcaa gctcattgc ccaagcgcaa tgccattcca accctcaa acccctcaa gctcattgc ccaagcgcaa tgccattcca acccttcaa acccctcaa
	NP_000907.	NM_002564
	Oxytocin Receptor	Purinergic Receptor P2Y, G- protein coupled, 2 (P2RY2)
	15 3582	68SE 91

	Homo sapiens	Homo sapiens
	വ	<b>«</b>
		ttccgatgct gccgccgcct gccactgccg tactacctgc gccatctgga aatttggctc agtgtgaaca attgtgaaca ggtgtggtgt
	GVVCVLGLCL FSTVLCKLVR VLACQAPVLY MARRILKPAY LNAINMAYKV SDRTDMQRIG	tegetggett accetegga tgteccaac cacggtegcc cttecagtt caacagctt gtacatgttc gtteactac gttetactac gttetactgt cagataccag cagatacctg cagatacctg cagatacctg cagatacctg cagatacctg cagatacctg cagatacctg catttggtagc cacttggtagc cacttggtagc cacttggtagc cacttggtagc cagatacctg cagataccagag cagatacctg cagatacctg cagatacctg cagatacctg cagataccagag cagataccagag
	FKYVLLPVSY YYYARGDHWP RRVAGAVWVL FAVILVCYVL FRSLDLSCHT PARRLGLRR	tcccttccgc gccgcctcct tgtggcaga ccaagacggg gcttcctggg gcattccgt cagtgccca agaagaatgc ccatcgtgt ccatcaga tgttctgtgt tttacaaaga tgttctgtgt tttacaaaga tactgactgt tgttctgtgt tttacaaaga tactgactgt tcttggcggg gggcccggct gggcccggct cgtatcaggt tcttggcggg tactgactgt gggcccgggt ggaccgggt gaagtgaaga tgttctgtgt tttacaaaga tgttctgtgt tttacaaaga tactgactgt gggcccgggt gggcccgggt ggagccgggt ggagcaggt
• • • • • • • • • • • •	LGYRCRENED LYAASIPLIV SIRWGRARYA VMLGILEAVP FHVTRILYYS KPPTGPSPAT	gttcgcctgc ctgccctctc accgaggtgc ggttcgtcct tgcgccttga ttcatcatcg cctgactctgc gcgactctgca ctgacatgga ctgacatgga ctgacatgga ctgacatgga acgtggca acgtggca acgtggca acgtggca atgaactttga atgaacttga atgaacttga atgaacttga atgaacttga atgaacttga atgaacttga atgaacttga atgaacttga atgaacttga atgaacttga atgaacttga atgaacttga atgaacttga atgaacttga atgaacttga attatgcca attatgcca
	TINGTWDGDE YMFHLAVSDA RCLGVLRFLR LFSRFVAYSS LAVFALCELP QRLVRFARDA NTKDIRL	cggggatcca ctggccgccg ggagagatg ggccggtccg gtcgttcaaa catcttggta cttcggggat catcttgttt gtcctggggat aaccatgaca attaattgca attaattgca gattaaaacg gattaactg gattaactg gattaaaacg catggaaaacg catggaaaacg catgtaaaacg catgtaaaacg
agcagaacac gcagacgcca ctccgtcatt taacccctag agctcaaggt aggtacctag agtcacaggt ggaatggact aacatctggg gaaggctgaa	MAADLGPWND RLKTWNASTT ILFLTCISVH VTCHDTSAPE RKSVRTIAVV LDPVLYFLAG RTESTPAGSE	cccctcccg tgctgcgccc aagtcgagga ctgcttcct cggctgtcta tgttcgtctt tgttcgtcaga tctatggcag acccctcaa tgtggctcat gcaaaaacaa tgtggctcat gcaaaaacaa tgtggctca gctgttacgg ggagaaaatc cttccatgt tgtgtgctt tgtgcaaaaaca gctttccatgt tgtgcaaaaca gctttccatgt tgtgcaaaaca gctttccatgt tgtgcaaaaca gctttccatgt tgtgcaaaaca gctttccatgt tgtgcaaaaca gctttccatgt tgtgcaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaca gctttccatgt tgaaaaca gctttccatgt tgaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gctttccatgt tgaaaaaca gcaaaaca gcaaaaca gcaaaaca gcaaaaca gcaaaaca gcaaaaca gcaaaaca gcaaaaca gcaaaaca gcaaaaca gcaaaca gcaaaca gcaaca gcaaaca gcaaaca gcaaaca gcaaaca g
	NP_002555.1	NM_002563
	Purinergic Receptor P2Y, G- protein coupled, 2 (P2RY2)	Purinergic Receptor P2Y1
	3589	3595 3595
	217	8 18

	Homo sapiens	Homo sapiens
gggtttgctt acctagttaa gtgtgtgtgc agcccctgc gtaggaataa actcatcagt tcttataagc gctaatgaat attatatat attatatat attatatat attatatat cagcattc ggtttgtgttc taaattacag gtttttggttc taaattacag gacagaaga caagtatact	FYYLPAVYIL P YENKTDWIEG ISVLWWLIVV VLILGCYGLI QTPAMCAEND QSKSEDMTLN	agcgttaaca A atgttcagca atctgcgtcc gacttgcttt ccatttggag agcattctgt aagtcaaaga actgtgatcg aatgcctcag aatgcctcag aatgcctcag aggattgtaa tgttctagta acaaaacta gttccttaca aacaaaacta aacaaaacta
tagcttgttt aaacaatact tetgtttaaa taagaaaccaca aaaaccctaa tttttcagtg gacaagtaaa aaaaggtetc cgtactggta gagctcttt ttaggacttt ttaggacttt gaattgcaaa aaggatattcaa	KCALIKTGEQ VLTLPALIEY GRLKKNAIC TTVAMECVPL TMNLRARLDE KASRRSEANL	tacgatggta atacatttc ggcaatgtca acggaattgg catgtacgga ctacccatt cgtgtggtta tcagggtaac atatctctca aaatgtaact atatctctca atatctctca atatctctca atatctctca atatctctca
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gaaatgccca gactagaaatg tttgataatta tttgatatta ctagccttta tatctagcat ggatctctga tttctttagg tgttttccag ggaaagcctg atttccttg accactgct accactgct accactgct accactgct accacactgct accacacacaca agaagacctg	· · ·	ctgaaaattg gactccttta gtatccaatt acaacttaca aggatttttt gtgatgctgt gatcgatttc gatcgatttc gcaaagattg tttgttcagt ttttttattc aaaccagtta gtacatttga tttttattc at cttttattc
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ttaaaaaaat tcacagtcct acattactt acattgagtac aaaatctata tcatccggca atagatgata ttaaaagcct gggtgctaaa aaaataatta gggtgctaaa acaaagag caggacaagt accaaagat cagtattca cagtattca cagtattca		tigatgaaag gctccaaagtccg ttgtttttacc ttgttttaacctg tcttaacctg ctctaagaac gaggaagtgc aagcctgctt tttcatcga tgtgctaaa aggttttaaa aggttttaaa tggcagcagt
	NP_002554.1	NM_005767
	Purinergic Receptor P2Y1	Purinergic Receptor P2Y5
	3595	3596
	219	220

	Homo sapiens	Homo sapiens
t tetetgaagt teatggtgea gagaatttta magatatttga caatgaatet getgeetgaa metteaag		t eggetgggag cagagtgge titgtefitt A t tatticecat caagateaa ggacetgete gggetggtt teagatggt titetgettgggag cagagtgagt titetgettgggag caactgete tettgeteat etgetgeete tettgetgeta etgetgeete tettgetgaa gggetggagtte dggetgggagte etectgggeag eccetgggagtte aggetgggag etectgggeag etectgggeag etectgggagtt geacetgaee etectggget tetetgggagt titetgggggg eetetgggeag etectggget tetetgggagt tetetggggagte etectgggeag etectgggeag etectgggeag etectgggeag etectggggggggggggggggggggggggggggggggg
gacttcagat ttaaaaagta tgggacagaa	GENESMYEL NWPFGDLLCK WLTVIGGSAP VTCSSMVLKT	tectgteage aatttgteage taaaaatttg taaaaatttg taaaaatttg aagteecteage aagacecteage aagacectgee acaggecagg ctgctgetge gtcattacce aaccttgetc geccaagtg tatgccaag tatgcaac geccaagtg gagccttgetg geccaagtg tatgccaac geccaagtg aagccttgetg aagtcccag aggccttgetg aagtcccag aggccgtttg aagtcccag gecctgtg aagtcccag aggccgtttg aagtcccag gecctgtg aagtcccag aggccgtttg aagtcccag gtcaacgccg gtcaacgccg ggtcgctgag aggagccccag aggagccccag gtcaacgccg gtcaacgccg ggtcgctgag aggagccccag aggagccccag
caggagaagt cctacagacc taggactcac	YNDSFKYTLY PFRIFYFTR RNAKIVCTGV VGFFIPLILN LYSLVRTQTF	RSDFRFSEVH gaggggccct ggatagtgtccc ggatagtgtccc ggatagtgtccc ggatagtgtccc actcctgat gtcctcagtg ggacaatggc cttcaagcaa gaacatctgt gtacacccta ctcctcttc gcgctacctgt tgcctggcca ctcctttc gcgctacctg tgcctggcca ctcctttc gcgctacctg tgcctggcc ctccttc gcgctacctg tgcctggcc tgccttgcct
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	NP_005758.1	NM_004154
	Purinergic Recepto <i>r</i> P2Y5	Purinergic Receptor P2Y6
	3596	3597
	221	222

Homo sapiens	Homo
ICTSRRALTR P. HGSILFLTCI QRNRTVCYDL QERRGKAARM SANSVLDPIL	coctgaaaaaa A ttcaagcoctc ttcaagcoctc a ttccttcaag a accaacagt tatttttatc a aactactttac a aactactttaccac tractttccacc tractttccacc tractttccacc tractctgaaag tractttccaca tractctgaaaca tractctcaggt tractcaagat a tcaaaaaaatt traaaaaaatt traaaaaaaa
LPLNICVITQ LVRFLFYANL PTAIFAATGI RQDGPAEPVA AAYKGTRPFA	cagcaggect aagattcaaa ttgttgatga tgggtctgatga tggggagtcttaa agatctctgg ttagtgtgga ggaggaattc cagcactcttt tctccaaacg ggtttatcat atgccctagt atgcccaat acttcaccat ccttgtttaa acttcacacat tctaaagatt tttgaagatt tttaaagt aattacaa aattacaa aattactaa aattactaa aattactaa aattactaa aattactaa aattactaa aattactaa aattactaa cattactaa cattaaaa cattactaa aattactaa aattactaa cattactaa
PVYSAVLAAG HWPFGDFACR VWLAVTTQCL CYCLLACRLC VPCTVLEAFA	cccctgcage attactage attactage acaattcatca accttgtacac accttgtacac accttgtacac attaggacta attaggacta attaggacta agaactcttc agaactctt agaagttgttg agaactcttgt agaactctt attactctatt attactctatt attactctatt attacacaat ttattttttt attactttttt attacacaat ttactttttt attacacaat ttacttttttt attacacaat ttactttttt attacacaat ttacttttttt attacacaat ttacacaat ttacacaat ttacacaaat ttacacaaat attacaaaa acagaacaaat ttactttttt attacacaat ttacacaat ttacacaat ttacacaat ttacacaaat ttacacaaat ttacacaaat ttacacaaat ttacacaaat attacacaat ttacacaaat
RENFKQLLLP LLIYNYAQGD RRAAMLVCVA FLLPFAALLA AYLAVRSTPG	autcatagas tetratagas tetrasagas tetrasagas tetrasagas tetrasagas autcesagas caccaccas agtecteaga caccaccas gaaagatt tetrasaga gatteteaga acceaaca acteteaga acceaaca acteaga acceaaca acteaga acceaaca acceaac acaaca acceaac acaaca acceaac tetaga acceaac tetaga acteaga acteaga acteaga acceaac tetaga acceaac acceaac acceaac acceaac tetaga acceaac acceaac acceaac acceaac acceaac acceaac acceaac acceaac acceaac acceaac acceaac acceaac acceaac acceaac acceaac acceaac acceaac ac
LGLPPTTCVY ADLLYACSLP PLAPWHKRGG PYGMALTVIG SFLPFHITKT	·
MEWDNGTGQA TAVYTLNLAL SFQRYLGICH SPPALATHYM AVVVAAAFAI	cctaccoggtc agacccaggtc agacccaggtc actaccaggt accaatctag accaatctag accaatcgtc ttgaatgtca actaatgtca actaatgtca actaatgtca acttattat ttgaatgtct ccaaattggga actaatgtca acttattat ccaaattggga actaatggga actaatggca actaatggga actaatggta ccagaagtcct ccatttgatcca ccagaagtcct ttgcaaccc actttgaacca ccagaagtcct cctttgacca ccagaagtcct cctttgacca attgccaaac tttttattggta attgcaaaa tttttattggta attgcacaaa tttttattggta attgcacaaa tttttattggta attgcacaaa tttttattggta attgcacaaa tttgcacaaa tttgcacaaa tttgcacaaa tttgcacaaa tttgcacaaa tttgcacaaa tttgcacaaa tttgcacaaa attgcacaaa tttgcacaaa tttgcacaaa attgcacaaa attgcacaaa tttgcacaaa tttgcacaaa accagaaaccaaa accagaaaccaaa accagaaaccaaa accagaaaccaaa accagaaaccaaa accagaaaccaaa accagaaccaaa accagacaaaa accagacaaaa accagacaaaa accagacaaaaa accagacaaaa accagacaaaa accagacaaaa accagacaaaaa accagacaaaaa accagacaaaaaaa accagacaaaaa
NP_004145.1	NM_005296
Purinergic Receptor P2Y6	G Protein-Coupled Receptor 23 (GPR23)
3597	3299
223	22.4

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1	o.	∢
aattaatcct tatcgaattt ccaaataaaa	ILGLITNSVS CKISGTAFLT ISASLFSTTN LRKPATLSQI IMYPITLCLA EEVSDQTTNN	aagtttgctc ggtccctgct tctggggttg gcaccattac tcatttgttg tttatgactt attttatgca tgggctactc tgggcagattgca gagctacact aatcacaata attattattg tttcggacac ttgttgcagc ttgttgcagc ttgttgcagc ttgttgcagc ttgttgcagc ttattctgtt ttgttggagat ttattctgtt ttattctgt tcatctttgg ggtggagat cagtgctcac ggtggagat tattctgtt ttattctgt ttattctgt ttattctgt tcatcactt aggtggaga tagcttacc cagtgctcac gaggagaga tcattcttgt tcattcac cagtgctcac cagagaga acagagaga tcatttacc cagtgctcac cagagaga acagagaga tcactttacc cagagagaac cagagaga
	LNGAVYSVVF NRHWPFGDTL GVWILVLSGG VSCSSVVLRT TNCFLERFAK TTKPSLPAIQ	tactggccac tctggaggag tcgctccacg gattctgatg caatgtgaac tgggatgga ggtataccg agttacttca ttcatgtgaca ttcgggaca tctgtggaca ctggctaca agggcttaca agggcttaca caacagcat tcgggaactta acaatgcag attggaactta acaatgcag attggaactta acaatgcag actggctca acaatgcag acaatgcag actggctca acaatgcag ggcttaatt aggacttaca acaatgcag acaatgcag actggaccg actggaccg actggaccg actggaccg actggacca agagaccaca agagaccaca agagaccaca agagaccaca agagaccaca agagaccaca agagaccaca agagaccaca agagaccaca agagaccaca agagaccaca agagaccacacaca
aaaacattta tgaaaatact tttgtgcccc	CIVDDSFKYN TLPFKIFYNF TRRNSAIVCA VGFIIPLILN LYALVRSQAI ESLFKTETPL	tgcgcgtcgt tctcccgggc agccaactg agccaactg tttccctga tgttccatgc taaccccaat cctcatcttt atttgtgtct tcacatagga tgaggcaact tctcatcttt tctcatcttt tctcatcttt tctcatcttt tctcatcttt tctcatcttt tctcatcttt tgcgaggttgc agcagctatt atttacttc tctcatcttt tgcgaggttgc tctatcttt cttcatcttt cttcatcttt cttcatcttt cttcatcttt cttcatcttt ctcatcttt tgcgaggttgc agcagctatt aatctgggag atcgacactg tcactccttc cttcagggt atcgacactg tcactccttc cttcagggt atcgacactg cagcagctatt aatctgggag atcgacactg cagcagctatt aatctggag atcgacactg cagcagctatt aatctagggt gtgacacctg cagcacctg cagcacctg cagcacctg cagcacctc cttcagggt atcactccttc cttcagggt atcgacactg cagcacctg cagcacctg cagcacctg atcgacacctg cagcacctg cagcacctg cagcacctg cagcacctg cagcacctg cagcacctg cagcacctg cagcacctg cagcacctg cagcacctg cagcacctg cacctcttc cttcatctttt aatctcatcttt aatctaggaga cacctcatctttt aatctcatccttc cttcatccttc ctttcagggt caccacctg caccaccac caccaccac caccaccaccac caccac
ctataaaccc atatataacc agctgctgaa	RLGNATANNT LAVSDLLEVC VYPFRSRTIR LSKITIFIEV CFVPYNSVLF SFYINAHIRM	ccacccago cttggaagct gcatggccgg ttgtgctgaa aaatatcgc tccaatatt ccaattatt tcttggacg ttgtggctat acatgcactt tagtccatga acatgcact ttgtgatgt ttgtgatgt tcttgatgg ctctggctaa acctgccaa actgccaa actggccaa actggccaa actggccaa actggccaa actggccaa actggccaa actggccaa actggccaa actggccaa actggccaa actggccaa actggccaa actgccaa actggccaa actggccaa actggccaa actggccaa actggccaa actggccaa actggccaa actggccaa actggccaa actggccaa actggccaa actggccaa actgccaa accgccatgc acacgccatgc acacgccatgc acacgcaa accgcaa accgaa accgaa accgcaa accgaa accgaa accgaa accgaa accgaa accaa accgccaa accgaa accaa ac
aaaaatcaaa aggagtagag tatagccagg aaaattcct	FQDSNSSLRP RSETAIFITN CISVDRFLAI GFSKRVWKTY ITVHMAVFVV	ccgggcccga aagttggcaa gccgttccgg ggcagttgct caggagggag acagtggga gaagattgct gaagattgct gaagatcca gaagatcct tggggcttcc tggggcttca tggggcttca tggggcttca tggggcttca tggggcttca tggggcttca agacgacaa atttatcaag gttagagttc caatacagga atcgtgttcg tggaaaagga atcgtgttcg tggaaaagga atcgtgttcg tggaaaagga cacaagaacaa attgaagctc aatacagga atcgtgttcg tggaaaagga cacaagaacaa agaggaacaa attgaagctcc aatacagga atcgtgttcg tggaaaagga cacaagaacaa aaagtgaaacaa aaagtgaacacaa
agtaatacta ttttggaggg tggagcctaa aaaaaaaaa	MGDRREIDEQ LEVECFRMKM NIYGSMLFLT VNNATTTCFE GTNKKKVLKM TLNCCFDPFI GGELMLESTF	ggccggtggc tgggccacc tcttcctaca gctaatgctc aaccataaa cagcttaaat cagcatagga catcttttt ttgcactagg catctttgtc aataatgcag tatcgggtgg catcaggaag agtgcattac cacagggaag agtgcattac cacagggaag catcatgc cacaggaag agtgcattac cacaggaag catcatgc cacaggaag catcatgc cacaggaag catcatgc cacaggaag
	NP_005287.1	NM_005048
	G Protein- Coupled Receptor 23 (GPR23)	Parathyroid Hormone Receptor 2 (PTHR2)
	3599 599	3638
	225	52 6

	Homo sapiens	Homo sapiens
ggcttggctg taataatagt aagtgtcaat tatggtatt caattgcttg agtgtgtatc ctatcactgc gaagataaaa aataatgcat aatattcac tcactcttc tgtctgcaaa cttttcttg	NITAQLQEGE P EMHSLNKTWA RLHCTRNYIH SQYIGCKIAV VAAWAVARAT GHDTRKQYRK IIYCYCNGEV MVLISGKAAK	ccggcctggc A cagatgacat gcgaaaaacg gatggacatc accttgagtc gtctgccgga ctgtgccctg gtgaccgcaa gcgagtgtgt gcatgattta tcctggccta tgtccttcat ccacgcttga cccgcccc cccgcccc
tgtgtgagag aggtgttact atgaaaatgc taaataatg aagatctttt taatgtactt aaatatatgg acattgataa ctcaaaaag ctcaagtct agtgagcttg	VLKAKVQCEL RHCNPNGTWD VALLIIGYFR NSIEATSVDK LIGWGFPAAF ATKIWETNAV FNSFQGFFVS SQSQVAASTR	cuggatcgcag cuggtggatg caggccagt tcagacaagg gggaagctct gaggtggtgg taccgacgct gccaactaca gccaactaca gaccgcctgg gccactaca gaccgcctgg gaccgctgg tacctgttcc tacttggcg
aatggctggt aattcagtta agttttcctc ttttgggtag aaatataatg tttcttactt ggatctaaaa agttggctgg aggaaaattt accagccaga ttcctcagtt acaaccagt	TITIEEQIVL YDFNHKGVAF GYSISFGSLA ESLIMQDDPQ SDTKYLWGFI ILFLNTVRVL WEIRMHCELF VLTTVTHSTS	ggggaccgcc cgcgtacgcc cataatggaa taaggtaccga ggcaccaggt aggcattgc caggacgtgg ggaggtgttt cctcaccgta catccactg cgctggctct ggaggtgttt cctcaccgta catccacgta ggaggtgtttt cctcacgta cgctggctctc
gggctggtcc aaaggctgaaa ctcctgtaaa attgcatca tttctgctac atatcaccct tattctctta ggagcaatta ctggaaaatt tttgggaaca ctctttgtg gtggaaagat tttgggaaca ctctttgtg	LARAQLDSDG ISAVPCPPYI FERLYWYTV VHAHIGVKEL LHNLI FVAFF PILAAIGLNF CLPHSFTGLG PPCGSRRCGS	cggtggcgat tgctcagctc tcttcctgct ggccagcaag ccaggaaaga ccactggcag ggccgctggg tcaatcacaa ctgggcacaa ctgggcacaa ctgggcacaa ctgggcacaa ccctggcacaa ccctggcaaca aggaggagca aggaggact
tgactttcat gcttgagttc catgaattgg attaccttct tgttcattt tctctcatat tagaaactag cctgtgcata caagtacttg tacatgtgtt ttttgaatgg accatgtctt ttttgaatgg accatgtcat ttttgaatgg	WGWLMLGSCL ICWPRGTVGK PDISIGKQEF ATSIEVKDRV YWILVEGLY AGDIKWIYQA WLEVHYIVEV WNLSVDWKRT TLPGYVWSNS	cggccctagg tgctgcccgg gaggaacaga tcagggaagca atgaggaagca atctgtgct atttatgact gagctggtgc accaatgaga tactccgtgt ctgcactgca
catttgtgggc atactcctat ttttaggctc ggagtagttt gctctgtgat gctctagctt atttccttt atttattttg gatctagaa ttataacaat acatcccttc ttcttgtaa	CAGOGERATION GNCEPENDGL NYSDCLRFLQ MHLFVSFMLR LADARCWELS LAKSTLVIVL QAEVKKMWSR IASRQPDSHI	concertory catgacygacy actcaacyaa gctcaacyaa tgcgtccaca tgaggacyac atggaacac tccgaactac tccgaactac tcggaactac tcggaactac tcggactac tcggaactac tcggactac cacatttctc cacatttctc cacattggcg gctgggcgc cttaggcgg gctggcgc cttaggcg
	NP_005039.1	NM_000316
	Parathyroid Hormone Receptor 2 (PTHR2)	Parathyroid Hormone Receptor 1 (PTHR1)
	3638	3640
	227	228

WO 02/061087 PCT/US01/50107

	Homo sapiens	Homo sapiens
acagtetteg getggggtet accetggeca acacegggtg gtgcccatc tggcetccat etcgccacca agetgggga aagetgetea aatecacga atggccacac catacaccga atggtacaag ctgagatcaa gaggtacaag ctgagatcaa cgaaaggcac gcagegggag gtgaccaatg teggcccccg actgcacca ccaacggcca ctggagacc tegagaccac actgcacca ccaacggcca ctggagacc tegagaccac actgcacca agetggaagacacacac aacggetect getcaggcct ctacaggaag agtgggagac agtggatga cagatggaccacacacacaacagacacacacaagagaagaagagaacacacacacacacacacacacacacacacacacacaca	VMTKEEOIFI LHRAQAQCEK RLKEVLORPA P SEEDKEAPTG SRYRGRPCLP EWDHILCWPL NGSWELVPGH NRTWANYSEC VKFLTNETRE YFRRLHCTRN YIHWHLFLSF MLRAVSIFVK PATAAAGYAG CRVAVTFFLY FLATNYYWIL LPAVFVAVWV SVRATLANTG CWDLSSGNKK ETNAGRCDTR QOYRKLLKST LVLMPLFGVH QGFFVAIIYC FCNGEVQAEI KKSWSRWTLA PUEGEASGPER PPALLOEEWE TVM	
ttctcagaga agaagtacct ttcgtggctg tgtgggtcag agctccggga acaaaaagtg ttcatcctct tcatcaatat ggccggtgtg acacacggca ccctctttg gcgtccacta acgctctggc aagtccagat gtcgcaatca tatactgttt agccgctgga cactggcact agctacggc ccatggtgtc ggctgccc tcagccccg cctggccatg ccaaggacg atggctgctc ccaaggacga atggctgctc ccaaggacga gcctctgggc ctgagcggcc ccaggcgctg ggggctggac tggttgaatg atttccact	ALLICCPVIS SAYALVDADD SASTSGKPRK DKASGKLYPE CPDYIYDFNH KCHAYRKDR YTVGYSVSLA SLTVAVLILA PEAERLIFEE LRAIAQAPP FWAFFSEKKY LWGFTVFGWG IVLNFILFIN IVRVLATKLR EVSGTLWQVQ MHYEMLENSF SSSYSYGPWV SHTSVTNVGP TPPAMAARKD DGFLMGSCSG	cacattgggg ctgacctgca gtcatggcgg ttgtcgtgca cggggcagac tccgcaaagg gctgacctgc cgctgctgtc ggtgtcgtgc acgtttccct tctgactgca tcttcaagaa gagctgatgg gcttcaatga tgttggaagc ccgcccatgt atcttcaacc cagaccaagt agtaactcct tagatctctc tggtcggaac ccttccctca actggggac agattatta actggggac agattatta
•	0307.1 MGTARIAPGL SIMESDKGWT GAPGEVVAVP REVFDRLGMI DAVLYSGATL VEGLYLHSLI WIIQVPILAS YIVFWATPYT GLDFKRKARSG GTPALET	
	Parathyroid NP_000307 Hormone Receptor 1 (PTHR1)	PACAP NM_001118 Receptor Type 1
	229 3640	230 3732

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	Homo sapiens	Homo sapiens
gcaaccactg gtgttgttc tggagacctt ccccaactgt gctgggatat ctatcatggt agtctccaga tgctgctcat tcagcaaaag tggctgttct gaagctgtaa ccagcatgga	WCWPRSYMAG P CPGMWDNITC VSRNCTEDGW ILCRFRKLHC HYCVVSNYFW TGCWDMNDST STLLLIPLFG KWRSWKVNRY	tgagtgtgag A ggtcttcctc ccgggagaag cttcgtggtg tgggaccttc cttctgcctc tgctcggctg cgcctcctg taaggtgcag ggaggtggc gctgacctgt cgcctgtgc gcattggccc cagctacgtc cagctacctgc cagctacgtc cagacctgc
gagcaggaca ttccactact actctgctgg ggctggggga gacacaggct cagacactc ccagagaatg ccagagaatg ccagagaatg ccagagaatg ccagagaatg ccagactctggg agcttcttgg agctcccaaa	DIPLISVGGQ LMGFNDSSPG NSIDLSDMGV SLVTLTTAMV VECKAVMVFF WATLRLYFDD ESSIYLRLAR NGEVQAEIKR DNLAT	acaaccagtc tctacatgtt ttcggagcag ctgacctgac
tetgtatgeg catggtttte gtacctett caccatcatt ctactttgat catactttgt catcettccc tgccttcccag ggagatcaga ggaccgaca gagcacgaca agcccagaca	KSAAQRHIGA CLEKIQRANE TIGESDEGDS KALYTVGYST QDSNHCFIST WGTPTVCVTV KLQSPDMGGN FVVAVLYCFL SQIRMSGLPA	tatggggcag atcctgcca tggacctgtt ctggcggtgg gggactatg gtcaacatgt atcgtgaggc gcagttcttt ggggactcgg gtgagctcag gtgagccct cacttccagca tacatgctgg ttccctagc ttcccctagc tttccctagc ttttccctaac ttttccaac ttttccctaac
aagactggat gtaaggccgt tcgagggccgt tctactggta cgctgagact ggtgggtgat gcattatcgt gcattatcgt gcatctact tqgggctggg aggtacaagc tctccatcca tctccatcca	GRIRKGRAAC DCIFKKEQAM FNPDQVWETE GDQDYYYLSV FIKDWILYAE RYFYWYTIIG FIGIIVILVQ FELGLGSFQG	tgacaactac gggggccctc tctggtgctc cattgctagc ctacacgtac cctcatcttc ctacctggc cgtggccacg aggaccacg ggtggccacg ggtggccact ggtgggctt catcggggctt catcgctg catcgctg catcgacacac catcatac
gtcttcatca actgtggaat tggctgttca aggagatact gtgtgggcta acagctctgt ctttttattg aatgagtcca ggaatccact gtgtttgagc ctgataggtg tacttcgctg	AHCGACEWGR LLEMAPAMHS LVSCPELFRI CGFDEYESET VSFMLRAISV LLVETFFPER VGSIMVNFVL ENVSKRERLV SLASSGVNGG	gtggtgattt ggaaatcctc cgggaaacgg ctgatatctt tgtggggctac tcagcagcta gcttcgaccg tcagcggggc tcagcggggc tcagcggggc tcagcgacac gccaccac accacctcct tcaacccctt tcaacccctt
ggcgatctcc cttcatctcc caactacttc cttcctgaa gtgtgtgaca gaatgacagc taactttgtg catgggaggc ccactattc ggaaagactc gggaaagactc ggtgaatggg tggtgaatggg tggtgaatggg	MAGVVHVSLA VVHVSLAALL WKPAHVGEMV SEPFPHYFDA TRNFIHMNLF LFIEGLYLFT ALWWVIKGPV IHYTVFAFSP FAVDFKHRHP	atggaggaag tacacagact ctgggcacca aggcgctcag acgctgcccc ttctgcaagc acggctgcggg gccatgctggg gccatgcttg tgctacatgg cttggggtct tacttcttca tggatgccct tggatgccct aacagctgcc aacagctgcc
	NP_001109.1	NM_005161
	PACAP Receptor Type 1	Apelin Receptor
	3732	3844
	231	233

	Homo sapiens	Homo sapiens
tgtggttgac	WTVFRSSREK P VNMYASVFCL GDLENTTKVQ HFRKERIEGL FPYCTCISYV SQGPGPNMGK	ggacagagca A tggggggttca ccacagccag agcetcgagt agggaagacc tgcaacaatg tcacttctac agaagaata catcgtctgc gatgaagaag catcgtcttc gaccacacg cctgcttcaac cttcttgagt ctgcttcaac aatggaccet cttcttgag cttcttctc gaaccacac aatggaccet cttcttctc agccataga gggcctttcc catgcttggc cttcttctc catgcctggc cttcttctc gagcacacgc cttcttctc catgcctggc cttcttctc catgcctggc catgccttgg gggccctttc catgccttgg gggccctttc catgccttgg gggccctttc catgccttgg ggccctttc catccttc
aggagaccct	LGTTGNGLVL FCKLSSYLIF AMPVMVLRTT YFFIAQTIAG CDFDLFLMNI EKSASYSSGH	agggagctca tycggcgctc gggcaaacag tetececaac cagagaccag ctcagggctt tygtggttt tygtctacag ccagggtttcag ccagggtttcag ccagggtttcag ccagggtttt gggttttcag ccagggtttt gggaaaatat teteggtcca tectggtcca tectggtcca tectggtcca tectggtcca tectggtcca tectggtcca tectggcttt ggaaaatat tectggtcca tectggtcca tectggtcca tectggtcca tectggcga teatcattac accactgc ccattgccaa agttcaagg tcaaccactg ccattgccaa agttcaagg tcaaccactg tcaccactg ccattgccaa agttcaagg tcaaccactg ccattgccaa agttcaagg tcaaccactg ccattgccaa agttcaagg tcaaccactg ccattgccaa
ccctacagcc	IPAIYMLVFL RDYDWPFGTF AVLWVLAALL VVPFTIMLTC YMLGSLLHWP CAGTSHSSSG	ggcggccagc actgcttct ggtgtgcaag accttccggg taccaggagg aggctgggac gcagtgcag ttagactcca ttagactcca ttagactcca gactaccact gactaccact acatctggg acctcctgg acctcctgg acctccct cctcccc acctcct accatcggca acctgccat accatcgg acctccag acctccag acctccag acctccag acctccag acctccag acctccag accatcggcca accatcggcca accatcggcca accatcggcca accatcggcca accatcggcca accatcgtc accatcggcca accatcggcca accatcggcca accatcggcca accatcggcca accatcggcca accatcggcca actgcccttca actgcccttca actgcccttca actgcactcc actgcactcc actgcactcc actgcactcc actgcactcca acttgaactcca acttgaactcca acttgaactca
gaaatccatc	YTDWKSSGAL TLPLWATYTY RLRVSGAVAT LGVSSTTVGF WMPYHLVKTL TSMLCCGQSR	aagcagcccc ggtgataggg aaatgaatga cctcaggaag tggatttttc ctagagatct aactcaccat ggcgtgacat cctcaacctg tgccgccatg tgccgccatg tgccgcatg tgccgccatg tgccgccatg tgccgccatg tgccgccatg tgccgccatg tgccgccatg tgccgccatg tgccgccatg tgccgccatg tgccgccatg tgccgccatg accagact ttgctacctc gggtcttcc gggtcatacctc cttcaagat aagtgaagat aatgaatgag aagtgaagat aagtgaagat aagtgaagat aagtgaagat aagtgaagat ttccataccg catgggtcag aagtgaagat aagtgaagat aagtgaagat aagtgaagaa ttccatacag aagtgaagat aagtgaagaa ttccatacag aagtgaagaa aagtgaagaa aagtgaagaa aagtgaagaa ttccatacag
agatgcacga	YGADNQSECE LAVADLTFVV IVRPVANARL VSSEWAWEVG VVLVVTFALC FFDPRFRQAC	cgagtcaggg gaagcctccg ttgaatgaac cacagggaac cacagggaac ctgatggcat tggtcacagc cttgatggga aagccagggt ttctgggcaa tgtatctcct ctgaccgca tggcttacat tcgtcttccg tggcttacat tcgtcttcca ccaagaagc ccaagaagc ccaagaagc cctaccaca gcctgggtt tgtatgttt taatgttt tgaatgttt tgaatgtt taatgaccaca cctaccaca gcctgggtt tgaatgtt taatgtcat cctaccaca gcctgggtt tgaatgtcat tgaatgtcat tgaatgtcat tgaatgtcat agatgtcat agatgtcat agatgtcat agatgtcat agatgtcat agatgtcat agatgtcat agatgtcat agatgtcat agatgtcat agatgtcat agatgtcat agatgtcat agatgtcat agatgtcat
ggtggagaac tag	MEEGGDFDNY RRSADIFIAS TGLSFDRYLA CYMDYSMVAT RKRRRLLSII NSCLNPFLYA GGEQMHEKSI	gaatteggea gaggagecetgg gaggagecetgt ggectgcagt atctctccag atagcagaag atagcagaag acattetgg acacttetgg tececettgg tececettgg tececatet atcatcagaag atcatcagec atcatcagec agcgttegec tececatete agcgttegec tececatete agcgttegec tececatete agcgttegec tececate agcgttegec tececatete agcgttegec tececatete agcgttegec tececatete agcgttegec tececatete agcgttegec tececatete agcgttegec tececatete agcgttegec tececatete agcgttegec tececatete agcgttegec tececagaa agctttacca agcgtttacca agggtgaca agggggaca agggggaca aggggaca aggggaca agggggaca aggggaca aggggaca aggggaca aggggaca aggggaca aggggaca aggggaca aggaca a
	NP_005152.1	NM_004072
	Apelin Receptor	Chemokine- Like Receptor 1 (CMKLR1)
	3844	3845
	233	234

Homo sapiens	sapiens
H &	Э 16 Н
PLEARVTRIF LVVVYSIVCF LGILGNGLVI P PIHITYAAMD YHWVFGTAMC KISNFLLIHN VRLAYMACMV IWVLAFFLSS PSIVFRDTAN GYSRHMVVTV TRFLCGFLVP VLIITACYLT WCPYHTLNLL ELHHTAMPGS VFSLGLPLAT RLVNALSEDT GHSSYPSHRS FTKMSSMNER	ccgtacagat cccggottc ccgaacgcaa Accgaagccct ctccagccaa ggaaaagcta acccggott ctctcgcct aacgccaca ggaaaagctgc aagggttggc aagggtggt ctctgactac aactacacgg gaaagctgaa tatcagcgcg gtggtgttca ttctcatctg ctgctttatcattgggaaa ccaagaatt ccaccgaccc tcagacctgt tggcaggagt agctacaca tacaagctca ccaccgaccc tcagacctgt tcagacctgt tcagtctct agctacaca acgggagcaa tactcccca acctgggtgg ctgcttctggactccctcacctcc acctccgtgt tcagtctct agctacaca tccgggtgg ctgctaccaca tctcgggtgg ctgctaccaca tctcgggggca tactcgtcatt acctggtgtg tctggctgg tctcggaag acctcggagcc gctctaccacacactcgcctggagccg gctcgggagatct tctgctggagtgg cgttggtgat ctctcggagg cgctgctcacacacacacacacacacacacacacacacac
DSIVVLEDLS P VADFLFNVFL P LPVWSQNHRS G WPTHSQMDPV G VTIITFFLC W	gcgaagcgag gctgcagttt catcgaacca cccgctggtc ccggcattac actgacctcg cttgctgacc tctggccctc ggccaccac ggccaccac ggccaccac ctgctgggtc tgcgttgaggtc caccacggtc caccacggtc caccacggtc caccacggtc caccacggtc caccacggtc caccacggtc caccacggtc caccacggtc caccacggtc aaccacggtc ggaaaacca gctgtcacac aaccccat ggaaaacca ggaaaacca aatctctgg aatctctgg aatctctgg aatctctgg aatctctgg aatcaccac caccacggaaa ggaaaacca caccacga caccaccac caccaccac caccaccac caccacca
SYGDEYPDYL VNMVWFLNLA ISSDRCISVL FSLSTPGSSS AKTKKPFKII PLLYVFMGQD	
MEDEDYNTSI IIATFWKKT METSVELLTI LHGKISCENN IVCKLQRNRL ALAIANSCMN TSMNERTGM	ctcggggga cacaaaagc cacaaaagg accatgggga accatgggga atctggagga atgtactatt gctaactgc cgggaaggga atgggctgga atgggctgga atgggctgga atgggctgga atgggctgga atgggctgga acatttcca acatttcca caccccaga cttcttcct caccccaga cattatattc caccccaga tttatattct agggttatt caagccaga tttatattct ttcatattct caccccaga tttatattct agggttattct cacccccaga tttatattct ttcatatct agggttattct caccccaga tttatattct agggttattct caccccaga tttatattct agggttattct caccccaga tttatattct agggttattct caccccaga tttatattct agggttattct agggttattct agggttagt ttatatattct agggttattct agggttattct agggttattct agggttattct agggttattct agggttattct agggttattct agggttattct agggttattct agggttagt ttatatattct agggttattct agggttattct
NP_004063.1	
Chemokine- Like Receptor 1 (CMKLR1)	Sphingolipid NM_001400 Receptor Edgl
3845	3846
235	236

	Homo sapiens	Homo sapiens	Homo sapiens
ctttaaaaaa ctgcataagg gaaacagaca atttcttagc tatttcagaa aagtactttt tctaacccgt tggtagggaa tataaatatt ttaaaccgag	VETLICCETI P KLTPAQWELR SLILGGLPIM RSRRLTFRKN FRAEYFLVLA SRSKSDNSSH	cctgcgggag A gggcagcacg cctgatggtt cattggcaac tatgttcgtg cttgacaatg gatcgggatg cttgcctgcac tgccttctgc catctacttc gtccatggca ccactcttc gtcatggca ccactcttc gtcaaggct ctacacgctg ggtcaaggct catacacgctg cacacacgctg	SFIVLENLMV PWFLREGSMEV
actttgattt tatcctagga accaagggag ttttgatgtt tattgattta tattgatttt ttactttaac ttcagtata ttcagtgat	yacteres KENSIKLTSV NLLLSGATTY FLLISACWVI YCRIYSLVRT GCKVKTCDILL KRPIIAGMEF	ggaacgagac aggcctccga tcttggagaa tgtacttttt tcaacattct gggagggcag tcgagcggca tcttcctcct tgggctggaa agaagtacat tctacgcacg actcggagcg actcgaggcg actcgaggcg actcgaggcg acccatcct gcccatcct	–
ggttgaagtc atatccattg acttttgca acttttgca ttccacttt gaagtcattt gaagtcattt ccttaagca agatagtaat ttgtatggtt	TEKINISAD DLIAGVAYTA LHUGSNNFRL TLLLISIVIL PLFILLIDV CPSGDSAGKF	ccggtgcggg aggctgaagg agcttcatcg cacaccgca tggttcctca aggcaccgcg ctgccattc ctgccattc ctctactcca acgcacca gtgtcatcg gtgcaggcgt tccgccatga cccattc ctctactcca atcgtgatcc accacaa gtgtcatcg gtgcaggac gtgcaggac gtgcaggac gtcaaggaa	
tttgggaattt ttaccatttc atattagcca gaatggatta acatccgtct gttccaggaa ccctcttgtg gctattcatt actgtcttt	NYDIIVEHYN NYDIIVEHYN ERYIIMLEKME HYILFCTTVF VISVETACWA AFIRIMSCCK	gcgtctccag gcgtctccag gttggcggg caataattt ggccggcatc tcccacggtc cagctaacag gctgggcgc catctggcc catctggcc taaggtggc tgtggtgac tgtggtgac tgtggtgac catctcaac	HYQYVGKLAG LALCDLLAGI IKMRPYDANK
ggatccgttt atgaaatgtg tatctaaatg agtgaaaacc aacaatatg ttcatttcaa gaatgtattt ctagaatcca tttaagtcca aaaatatt	AHRSSVSDYV WKTKKFHRPM SVFSLLAIAI SCFVLPLYHK SLALLKTVII YTLTNKEMRR	cocttocogo accttocogo accttocogo totococtoco cogtcoacctoco gyccttacoga ttgccttacoga ttgccttcac actgctctac coagoagocog cogtgotogat tcattgatgt tcattgatgt tcattgatgt tcattgatgt tcattgatgt tcattgatgt tcattgatgt tcattgatgt	PVRGNETLRE HNRMYFFIGN AIAIERHLTM
catgtaagcg catcttttca aagcacactt agcaaaacaa aaatgagtct tttgtgtga cttgattttt gttaactttt ggcagaact acaaagaata	MGPTSVPLVK LENIFVLLTI EGSMFVALSA GWNCISALSS ISKASRSSEK VLNSGTNPII	atggcaactg atggcaactg ctcaccaccg ttgattgcca ctggctctct aagaagacgt gcccttgggg atcaaaatga tgctggctca aatctccctg acagcaact ctggtgaagt ctgctgcgga atcacctc ctggtgaagt atcaccttc ctggtgaagt atcaccttc ctggtgaagt atcaccttcc agaagaaca agcagcaaca	MATALPPRIQ LIAIWKNNKF ALGASTCSLL
	NP_001391.2	NM_005226	NP_005217.1
	Sphingolipid NP_001391 Receptor Edgl	Sphingolipid NM_005226 Receptor Edg3	Sphingolipid NP_00521' Receptor Edg3
	3846	3847	3847
	237		239

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	LLRTVVIVVS	VEIACWSPLF	ILFLIDVACE	VOACPILEKA	QWFIVLAVLN	SAMNPVIYTL	
	ASKEMRRAFF	RLVCNCLVRG LONGT BCN	RGARASPIQP	ALDPSRSKSS	SSNNSSHSPK	<b>УКЕ</b> DLРНТDР	
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	gaccttcatg	tgcaaggtgg	tcaacagcat	gtacaagatg	aacttctaca	gctgtgtgtt	
	gctgatcatg	tgcatcagcg	tggacaggta	cattgccatt	gcccaggcca	tgagagcaca	
	tacttggagg	gagaaaaggc	ttttgtacag	caaaatggtt	tgctttacca	tctgggtatt	
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	gaccatcact	gtcctgaccg	tctttgtctt	gtctcagttt	ccctacaact	gcattttgtt	
	ggtgcagacc	attgacgcct	atgccatgtt	catctccaac	tgtgccgttt	ccaccaacat	
	tgacatctgc	ttccaggtca	cccagaccat	cgccttcttc	cacagttgcc	tgaaccctgt	
	tctctatgtt	tttgtgggtg	agagattccg	ccgggatctc	gtgaaaaccc	tgaagaactt	
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	aaaggggaca	cagaagcact	ggctgctgct	acagaccgca	aaagcagaaa	gtttcgtgaa	
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	ttatagattc	ctgatctaga	acctttccag	gcaatctcag	acctaatttc	cttctgttct	
	ccttgttctg	ttctgggcca	gtgaaggtcc	ttgttctgat	tttgaaacga	tctgcaggtc	
	ttgccagtga	accctggac	aactgaccac	acccacaagg	catccaaagt	ctgttggctt	
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	aggagccagc	cttggccctg	ttgtaggett	gttctgttga	gtggcacttg	ctttgggtcc	
	accgtctgtc	tgctccctag	aaaatgggct	ggttcttttg	gccctcttct	ttctgaggcc	
	cactttattc	tgaggaatac	agtgagcaga	tatgggcagc	agccaggtag	ggcaaagggg	
	tgaagcgcag	gccttgctgg	aaggctattt	acttccatgc	ttctcctttt	cttactctat	

C-C Chemokine Receptor 9 3848 240

1 3848 C-C  NP_006621.2 NP_006622 SANDYNER TIPETCERN VROPANEL PLANATOR A ALGABITION PROCESSED A SANDYNER CHARLES SANDYNER TO THE ANALYSM REPRESSED A SANDYNER TO THE ANALYSM ANALYSM THE ANALYSM ANALY	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
addggcaaca tittaaaago tittaactis atteactity gratificit aaaatattic acatatigg aaaqtgitt tacactis grating typeriticit aaaatattic acatatigg aaaqtgitt tacactis grating typeriticit aaaatattic acatatigg aaaqtgitt tacactis grating by Manyarbach manya	aagtaatgga atcacctttg taattacttg aaatagatac ALGNSLVILV NSMYKMNFYS EILYSQIKEE QAKKSSKHKA QTIAFFHSCL TSGALSL	tgacctagac catcgtcatt caatctagcc ggccatgaat ccagttgaac cactgtgaac cactgtggag cactgtggag cacttggtaa cacttggtaa cacttggtaa tgcctgatc ttgctggact ttgctgaac ttgctgac ttgcc ttgctgac ttgcc ttgctgac ttgcc ttgctgac ttgcc tcc t	LGIPGNAIVI KANSFTAQLN PALYFRDTVE FKVKKRTVLI GLAFLNSCLN LETAQ	tattttetgg getgeegeeg egggeaaegg gteggtgget agetggtgea teagetgaag ggetggtggg eaaetgeetg tgaegaaett eeteategge tgeegeteae getggeetat
agtggcaaca ttttaaaagc attcacttt gcatctttg attcacttt gcatctttg attcacttt gcatctttg attcacttt tacctgtt  Coepics  Receptor  Germin  Germin  Germin  Germin  Germin  Receptor  Germin  Germin  Receptor  Germin  Germin  Germin  Germin  Receptor  Germin  Receptor  Germin  Germin  Receptor				
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3848 C-C Chemokine Receptor 9 Coupled Receptor GPR1 GPR1 GOUPLED COUPLED COUPLED GOUPLED GOUPLED GOUPLED GPR1 GPR1 GPR1 GPR1 GPR1 GPR1 GPR1 GPR1	agtggcaaca attcaccttt aaaatattc tcactttctt at MADDYGSEST YWYCTRVKTM CVLLIMCISV SGIAICTMVY LKVTITVLTV NPVLYVEVGE		MEDLEETLFE WFTGLKWKKT MFASVFFLTV FNNHTLCYNN SSRHFWTILV	
3848 C-C Chemokine Receptor 9 G Protein- Coupled Receptor GPR1 GOUPLED		NM_005279	NP_005270.	NM_004248
	nokine eptor 9	G Protein- Coupled Receptor GPR1	G Protein- Coupled Receptor GPR1	G Protein- Coupled Receptor 10 (GPR10)
	241 3848	242 3849	243 3849	244 3850

	Homo sapiens	Homosapiens	Homo sapiens
igt gecaectggt ettetteetg ica ceategeagt ggaecgetae ige gecteagege etaegetgtg ieg eegeegtgea eacetateae Not tetggggete ecaggagege iet aectgeteee tetgetggte gea aecgegtggt geegggetge gee ggegeaeett etgettgetg ige tgeacgtett eaaectgetg itg ggetggtgea getgetetge ieg etaegeetg getgeaege	SVA GADAPAVTPF QSLQLVHQLK P SIG NLALSDVLMC TACVPLTLAY DRY VVLVHPLRRR ISLRLSAYAV DER QRQLYAWGLL LVTYLLPLLV SIL VVVVVVFAVC WLPLHVFNLL		atg tgtag PEP ELVVNPWDIV LCTSGTLISC P ITN FVFAYLLQSE ATKLVTIGLI YVM LVMLWGTSIC LGLLPVMGWN IQI CKIVMRHAHQ IALQHHFLAT
agtgttcage gaggcggcgc cagagggctg cggggcgctg cggggctgctg ggggctgctg ggtgtcagtg ctgggaccg cgccgtctgc catcgaccct ggcctgctagc	cag cgrggreare rga LPP AVTTPANGSA EASAGNGSVA NCL LVLVIARVRR LHNVTNFLIG FFL QPVTVYVSVF TLTTIAVDRY TYH VELKPHDVRL CEEFWGSQER PGC VTQSQADWDR ARRREFECLL LLC HWLAMSSACY NPFIYAWLHD	caatttaagc tyctytctcc ggacattytc tatcatcttc tcttycagaa tgtctycaga tytctycaga gtaccattyc ctccatctyc cttcatytt cycccatcay gaaagggytc caccctctat caccctctat	gag agcgcgctcg cccagtgatg DAA AAENISAAVS SRVPAVEPEP PMF LLIGSLALAD LLAGIGLITN RYL SLYYALTYHS ERTVTFTYVM NAA ILSVSFLEMF ALMLQLYIQI
	न्	atgaatgaag atgaatgaag gagattogtag gaaatgoca gaaatgoca tttgtttttg ttactttttg tcactgtact tcactctcag atcctctcqq tcacactatg atcacactatg tcacactatg tcacactatg tcacactatg tcacactatg tcacactatg tcacactatg tcacactatg tcacactatg tcacactatg	ccgtccagtc tcgcccagag .1 MNEDLKVNLS GLPRDYLDAA ENAIVVLIIF HNPSLRAEMF VASFSASVCS LLAITVDRYL CLRDESTCSV VRPLTKNNAA
	n- NP_004239 10	n- NM_005288	n- NP_005279
	3850 G Protein- Coupled Receptor 1 (GPR10)	3851 G Protein- Coupled Receptor GPR12	3851 G Protein- Coupled Receptor GPR12
	245	246	247

Homo sapiens		Homo sapiens	Homo sapiens
IYTYATLLPA TYNSIINPVI tcaccatgga tcagttccct A aggcctgtta tattggggac ccgtcatctt tgccattggc gcaagaagc caagagtgtc tgtttgtagc		cocaaagect tgryteadaaaagatttttg ttgttatttc coctagagtg ttgttagaaa gaatgacaaa gagtagacat gatgacaaa attcaactca ttgtggcaca agcaaaaagg caagcta IFAIGLVGNL LVVFALTNSK P MCKFTTAFFF IGFFGSIFFI AAPQFMFTKQ KENECLGDYP CKNHKKAKAI KLILLVVIVF VAFSHCCLNP LIYAFAGEKF	atgctacgag cccaaactct A tettecttee agtcttttac teatgggage gttgcattte atctggctge ctctgactte catctctagg actgtggagg ecgtcaatat gcactgcagt ccattgtgtg gccagtcgta gtgccagcat ctggtttate
SLIADYTYPS PSDV cgccaggcct gatttggctg atattctact ctcaccaaca tctgatctgc	agcatattot agcatattot aactocatga cttggtgact aatttettg gtggtcatcg cttaagctot agtgtgactg agtgtgactg agtgtgactg agtgtgactg	gctccttctc tgaagggaat ce cctgatgctg actagtgagg aa acccaatgca cacaaacaa co atgaacaaat tgaactcttt ga tcagaacatt ttggtttgca ga ggtggtgaat attgttcata tt aggggaacca gggcctgagc ca cyiGDIVVFG TVFLSIFYSV IF VATLFFWTY LINEKGLHNA MC RTVOHGVTIS LGVWAAAILV AA LLPLLIMSYC YFRIIQTLFS CK FFPSCDMRKD LRLALSVTET VA HVDFSSSESO RSRHGSVLSS NF	gattattact tacacctctg aaccttgttc tttatcatca gataaagaag tacatgatct cgctacctgg tatgtagtct
STLAILLGTF. ALCLICCGCI cagattccct cagaaaactt ttgggactgt atttgttggt	actartingar tetteategg tegecategg ageagaaaga tgetecegeaaga attgetaett ccattaaact ttatgatttt aggatetgag atceteteat ggaaatgeet	acgagicating gagardeath gagagaaceting gagaaceting agticetigaa e titoteticata aattigaaga at titotetitate geaatgica to gactagite gitaaatgica to gactagite gitaaatgica to gitotegage ceteaaatgi ag gitotetigage ceteaaagig ag gitotegage ceteaaagig ag MDQFPESVTE INFAYDDLAEA CY KPKSVTDIYL INLALSDLAEA CY TVISIDRYLA IVLAANSMNN RTEWILETIKLYD FE EVLOGIWPVU RNVETNFLGF LI FLEWTPYNVM IFLETIKLYD FF RRYLYHLYGK CLAVLGGRSV HV	aagaaacttc agacccactc tcctgactgg gccgaagact tcacattgcc tcctgtgcaa tcacttgcat tcacttgcat
X X X X X X X X X X X X X X X X X X X		A NP_001328.1 M	NM_005290 a
CX3C Chemokine Fractalkine Receptor 1		CX3C Chemokine Fractalkine Receptor 1	G Protein- Coupled Receptor GPR15
3852		3852	3853
248		. 249	250

	Homo sapiens	Homo sapiens
tgatgataag ggtggcctta cattgcaagg gaaatctata caatactttc caaccctttc gtgcccttgc gtgcccttgc	NLVLMGALHF P YMI SVNMHCS SRELTLI DDK KHNKKLKKSI AFANSCVNPF ARRKRSVSL	aagcgttaca A tttcttaaat cttcgacaga agcagcttcta atcaacctgt tctatagctg gttgtaccac acttgatatt ctttatggct acgccaaaga tgaccctgac ctccgccac acctcactcg tggtcattat agaagtcat agaagtcat tccacatcg gagccttac tccacatcg gagccttac tccacatcg gagccttac tccacatcg gagccttac tccacatcg acctcactg
tcacgetgat to tatggteect gg getactgttg ca aaaagetgaa ga gyetgeeett ca atttaceete ag acagetgtgt ca tecactgett gt atagtaaeget gg atagtaaeget gg	TAVFLTGVLG NI TGSFLCKGSS YP SCLLGLPTLL SI KLCAHYQQSG KF QLGMEVSGPL AI	ctecgaeogee aaaatacaaca tt aaaagatatee et ttgatggaea gg aacaateaag al goettagtgg a goettagtgg a goettagtgg a geattagtgg a gatgaatgg ceaageettg e gatggetaea t aaagtgetae t aaagtgetae t aaagteeaagg a tttatgeeet t aaattacet t aatteettee a aattacette ga eettactaca aaattacet t aattacette d aattacette d
tccagggagc attaaactca attgtgacct aagcacaaca cttgtctcct caagaacact gcatttgcca cgggccattg gagacatcag	YTSVFLPVEY DKEASLGLWR YVVCASIWFI IVTCYCCIAR QEHYLPSAIL ETSDSHLTKA	ccagcaccaa gaagcaactc acacagactt gatcaccctg caaaattgca cactgcatta gatgaatgtg ttatgcaaaa agtgttttac ggccattgta agacccagat aaaagcctgtg catcatgtg acccattgta agacccagat agacccagat gctcattgta gctcattgta agacccagat aaaagcttgt gctcataccg gctcgtctgc gctcgtctgc gctcgtctgc gctcgtctgc gctcgtctgc gctcgtctgc gaacagttac gctcgtctgc gctcgtctgc gaacagttac gctcgtctgc gaacagttac gctcgtctgc gaacagttac gctcgtctgc gctcgtctgc gctcgtctgc gcaccatgtt gctcgtctgc gcaccatgtt gctcgtctgc gcaccatgttac gctcgtctgc gctcgtctgc gcaccatgttac gctcgtctgc gcaccatgttac gcaccatgttac gctcgtctgc gcaccatttac gctcgtctgc gcaccatttac gctcgtctgc gcaccatttac gctcgtctgc gcaccatttac gctcgtctgc gcaccatttac gcaccagttac gcaccattac gcaccatttac
tactettetg ggcaacteca tttgttgage gcaateagga ggcagcettt tgggttgegg tggaccettg tggaccettg gtgaccettg ggaccettg	S DIRETHSHVP  I IFLVTLPLWV  SRKFRRTDCA  I IFTFFVPLLS  KFLAIVSGLR	
cagagatacc cagagaaaaa tttttqtccc gccattacca ttattgtcgt gcattgtctc a tgaagataag a tcttcgacag ttattctaca	L DYYYATSPNS I FIINLAASDF D RYLAIVWPVV P IKLIWSLVAL F LVSWLPFNTF R RAIVHCLCPC	
tcctgcctgc ccatactgtg atttcacct aagctgtgtg aagttcctgg cagcttggta atttactata atttactata ctcccacct	MDPEETSVYL KPGSRRLIDI VLLLTCMSVD PYCAEKKATP KIIFIVVAAF IYYIFDSYIR	gaaagagaca ctggaaacta acactgtttc agtatcatgc cccttttaac tatcttcata caagaagaga tatattctgc tcttgccttt acttacacc cacgacaac cacgacaac cacgacaac cacgacaac tcataatcc tcataatcc tcataatcc aaggatcatc tcataatcc aaggatcatc tcataatcc aaggatcatc tcataatcc aaggatcatc tcataatcc aaggatcatc tcataatcc aaggatcatc tcataatcc aaggatcatc tcataatcc cacctcctc aaggatcatc tttcgctttc aaggatcatc tttcgctttc aaggaacaaca cacctcctc aagaacaaca cacctcctc aagaacaaca cacctcctc aagaacaaca caccttcctc aagaacaaca caccttcctc aagaacaaca caccttcctc aagaacaaca caccttcctc
	NP_005281.	NM_005292
	G Protein- Coupled Receptor GPR15	G Protein- Coupled Receptor GPR18
	3853	3854
	251	252

P Homo	ADRY sapiens	MILY	CEVQ	/ISV		æ	ccac sapiens	ıcca	tgg	jgag	itot	gget	agat	gott	cagg	attt	ttgt	gaat	tgaa	ttca	tcac	ttta	gtta	ttgg	catt	atac	acta	ttat		щ	ASTP sapiens	REKA	VLII	LWHP	AYTI		<b>«</b>	sapiens	
-		_		LDVILYYIVS KQFQARVISV		atggataaca gcaagccaca	agctgcactg aaacagccac	cacagttgga tgagcaacca	acagccagca tcttctttgg	tgtttggtca tccataggag	atggcatgtg ctgaccttct	accactggaa ggtggacgct	ctcactccag gtgtccagat	atcgtctatc ctctgagctt	tegtggatet ttgatgeagg	gacagtcatt gtaactattt	cacttcttgg tgggctttgt	ataaaatata tttggagaat	gtccctcgga caaaagtgaa		aaaagttccc ttgttttcac	cctactctgt attcaattta		gccaaaaaa actacgttgg	gactcgatct atgactcatt	aactcaaatc caccaaatac	agattaaaaa gctttaacta	ttccaaggga aatgttttat					-			KLAWPINSNP PNTEV	_	aaggccgatg tccaggcctt	
				TTFLMNLSTC LDVIL		tgctcacaga atgga	ccaaaaccgc agctg	aagtgaggag cacag				gctccagttc accac		gttctacacc atcgt			cactgtcatc cactt	ccaaaaggtc ataaa	aatgaacatt gtcc	gttgtttttg ctctc	agactataag aaaac	agcctctaaa cctac	gactttttgc atgto	ttcaaggatg gccaa	tattaccaaa gacto	ttggcccatt aacto		tcactcaact ttcca			_		NYFLPSSWEG TAYTY	KVKTIKMFLI LNLLI		DSFDREAKEK KLAWI	ttcctggggc catta	actttactac aagg	
YKIAALVFYS	YYAKDEWPFG	ACVGVWIMTL	FIMIGCYLVI	ENSYNPWGAF	RSTSNINSEM L	atatggtttt	tggtgccct	tgatggaatt	tgaaacccgg	tcttcggcaa	ccaactactt	cttcgtcct	ttgtgcgata	gcatagaccg	ccaagaaat	ttttctatgg	gcactgccta	ttttatttta	tgaggaggac	ttttaaatct	cccatgaaca	ttagttcttc	ggatgaaaga	tcacaacaag	tggccaaaac	aaaagcttgc	tttcaattgt	atatttgttt	: gtttactgt	VPLQNRSCTE	FGNSLVCLVI	VRYFQYLTPG	FYGSNWDSHC	RRIMNIVPRT	SSSASKPTLY	AKTITKDSIY	cagagcaggt	Cactonon	せんかいかいいけい
	-		_	HI CFAFLMLGTG	SM RRKSFRSGSL	ga aaaaaagtga		ca agccaatacc		gg ttgtttcta	ct cagtctacca	tt gccagcacgc	ca acgtgcaagg	tc ctctccatct	cc agagaaaag			_	at ggccgaacgg	ag atgttcctca	ag ctatggcacc	ca tggatatcct	at tttcggagag	-	aa atcccttcca	aa gccaaggaaa	_	ga agctatttac	at gcattcattt	_	SI FEGILWLESI	_		YI WRIGTDGRTV	SL VETAITWISE	KN YVGISEIPSM	ıgg acggaggcca	ac tennethande	
٦.		MAIVQPKYAK	LKAVNVLNLT	VLVCFMPFHI	MLYRNYLRSM	13 aattaagaga	tttgattatt	acctctgcca	aacagacctt	gattctgtgg	taggaggact	catcagcgtt	gggtagtgca	ctacgttctc	caaggtgtcc	ctttgtgacc	cctcccctcc	gattccatct	aggcacagat	aactatcaag	tgtagctcag	agctatcaca	taatgccaat	ccgaagcaat	catttcagaa	tgacagagaa	tttgtctaa	taaaaacaga	tttgtaaaat	۲.	KPGEVATASI	FVLLQFTTGR	KKMIAASWIF	LFYQKVIKYI	HEQDYKKSSL	TTSSRMAKKN	02 agagatgggg	gascacatac	111の11のの
1- NP_005283						1- NM_006143	1																							n- NP_006134							n- NM_016602	I	
_	Coupled	Receptor	GPR18	•		5 G Protein-	Coupled	Receptor	GPR19																						Conpled	Receptor	GPR19				6 G Protein-	שלמוניט	5) 1.5)
253 3854						254 3855																								255 3855							256 3856		

	Homo sapiens	Homosapiens
rec etgaetetge cettegegge ce tgeegeacea tetetggeet rec tgtateageg cegaecgeta ce tecaeteceg geegegeaca itg gegetgeetg egetgetett ige etcatettee cegagggeet itg geectggget tegegetgee itg gtggegget tegegetgee itg gtggegget tegtggtget rec gatetaetgg egecagggg itg etggtgaeca geggettgge itg etgggeetge egegeggg itg etgggeetge gegeetegee ite etgggeetge a geggettgge itg etgggagaeca acagtetete itg agggeeteac ecagecgegg ica agggagaece acagtetetete iga aaggaetaec tetgtgeett		tag tececaatge caeegeagtg A ce tittecaeet gittigecegg ggg egetgiaegt tetetgetge caa acetggiggt gaeegateta acetggiggt gaeegateta acetggiggt gaeegateta acetggiggt gaeegateta acetggiggt cateetete gge egeeggee ege ggeeggee ege gggeegge egeggeegge egggeeggg egggeeggggeeggggeegggeeggggeeggggeeggggeegggg
tggccgacct cttgctggccacccgggttctggg aagtgccacccggcttcct cttcctggcccggccgggccg		gaggacateg gacagagacag caagaggatg gaggtgacac accttcaa ggactgtgag ctaagtaata tacacataa caagagatta tacacaataa catagttaa tactcaaca cctaggttaa tactcaaca ccgctaactg gacatagtga caggacagg agagacat gacatagt gacataga gacatactg gacataga gacatactg gacatacat gacatacat gacatacat gacaacaa agatacaga agatacaga agatacaga agatacaga agatacaga agatacaga agatacaga agatacaga agatacaga agatacaga agatacaga cataataga cataataga cataataga cataataga cataataga cataataga cataataga cataataga cataataga cataataga cataataga cataataga cataataga cataataga cataataga cataataga cataataga cataataga cataataga
agcagggct cttcagggct ctacteggct cttcagggct cttcagggct cttcagggct ccttcacggct ccttggtctcc gcatggcaggcg cttggtctcc gtcatcgtgt gcagcagagg gcagcagagg gctgggcgc atggtagct gccgagcgc atggtagct gccgagcgc cttggagggg gcggtgccc actgccagc cttggcccagc cttggacagca cttgagacaacactg agactagacaacactg attgatagaca	WGHYSGDEED RAARSPTSAH LACISADRYV CRLIFPEGLT ALVAAFVVLQ AFLGLRFRQD	atgcctctg tgtctccage acaacattge ctggaccattge ggaccattgg ggaccattgg ggaccattgg ggaccattgg ggaccattgg cgaccattgc ctggtagggc tgtcctgcc ctgcttgcct tccgccagt tccactgca tctgcttgga tgccctagc tgcctgtgg actacctgt cggtgcattgg actacctgt cggtgcattgg agtcctggg agtcctggg agtcctggt cagttcctgc tagtgcattgc cagttcctgc tcacggtgcattgg agtcctgct tgtgcactgt cacgttgc cagttcctgc tcacggtgcagga accagtggcg tggcgcggg
	NP_057686.1 MG LVG SA SA QD ER ER AR	NM_005293 at other control of the co
·	G Protein- Coupled Receptor GPR2/CCR10	G Protein- Coupled Receptor GPR20
	257 3856	258 3857

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	Ношо	sapiens					Ното	sapiens																	Ношо	sapiens					Ношо	sapiens							
ggcttag	GLCVALMAVH P	AVYYGARGCL	CAFVWLAAGA	QGRQRRVRAM	CMDPIVYCEV	ALANGPEA	ggcatttggc A	tctaactgta	tttgttgaac	tgttggggtg	ggagtccttg	ggcttctctg	taatactctg	gaccctggtc	gttcagtgg	gatgttatat	ctgccaacag	ggagactggg	cactagtgta	cactggccac	tttctgcaac	cctctcaggg	agttagaagc		FVFHCAPLIN P	VLKSVSMASL	PGYHGDVFQW	RFSSQSGETG	WLAISNSFCN		tacagtgcga A	gttaagcttt	cagcaacctc	taacattatt	tctaactata	ccatgaggct	tttggacaga	tgtaatgtta	rgaggraaar
		LVGLSLPTRF	CROPACARAV	CALSRPGLLH	VAVTLSSLNS	LSAGPHALTQ	tttgcctct	ttattgtctt	actgtgcacc	ctgacctttt	ttccagtaga	gcgtctccat	ctttaaccta	ggctatactc	atggagatgt	tcatcgtgat	tcttccgcat	gccagagtgg	tgtttcgaat	tggaaagctc	ttagtaacag	gactaaagcg	accettacac		TIISGNIIVI	TCQI FGFWS	FLPSFFHWGK	HTKDISERQA	SNRFASFLTT	KGPLNGCHI	aatctaacat	tatcatatcc	tgggacttgg	actctgtcag	gatgtattcc	tttgctgttt	ttgctatcac	tgggcagagc	recererae
gccctggcta	EVPLFHLFAR	YTINLWYDL	AIVRPEAPAA	VISVETGRIM	PHHTSLVVYH	SSKGSGRHHI	agccaccctt	gaagtattga	tttgtatttc	atggcatatg	catcacccc.	gttctgaaga	attactaaac'	ttcctgattt	cctggatatc	ttcaccctgt	tatttcaaca	cgcttcagca	gccatggtcc	tacttcttgt	tggcttgcta	ttccaaagag	acagccaacg		EVLIIVFLTV	HHPLPVEESL	FLIWLYSTLV	YFNIFRICOO	YFLLESSTGH	TANDPYTVRS	atgcagtctg	taccaaccac	gaaattgtgt	aacttaatca					retteetga
cctcacccag	TTVRTNASGL	RTRAKTPSVI	LTCICVDRYL	TVLEFLLPLL	QVAVALWPDM	SSGDVVSMHR	taatcagagc	ttgccttttg	cattgtgatt	tatccagact	atcactcctc	tgtagtatca	atacattgcc	cctgtgtatt	ctggggcaaa	cgactcctac	ctgcttcacc	aaggcaagcc	taagcgctat	atatatcatc	cttgaccacc	caacagtgta	aagtcagact	tcatatctga		SCVVPSLSLL	VTPWRLRLCI	APAALIVCET		•	ggaaatcaac	caccaatatg	tcttatgtta	catgaaatcc					בככבבבבכ
gccctcacgc	AGAVPNATAV	NGLALYVECC	FLUMHCSILF	SRPCCRVFAL	LVCFTPFHAR	LFGQHGEREP	ccttggatgg	ctgtcaattt	ctggcaacat	caagttattt	teeettett	tatttggttt	gcattgatag	ggagactacg	cctttttcca	cctggcacac	cccttattgt	atatcagcga	cctgtcctga	tctggttgcc	tegeateett	atagtctctc	cttcttgtgc	ttaatggatg		MAYADLFVGV		FTLFIVMMLY	AMVLFRITSV	FQRGLKRLSG	ctcccattct	-		tactttactg					treggartr
ctcagtgccg	MPSVSPAGPS	GAIFLAGLVL	RCAFPHVLGY	VTLSVLGVTG	QLLLTVLIIF	TSGFQATVRG	atgaactcca	tatttggaaa	ttgattattt	catcacacta	agctgcgtgg	acttgccaga	gcctgtatca	gttacaccct	ttcctgcctt	tgtgcggagt	gccccagcag	cacacaaagg	gaagtgcagg	ttttacatcc	agcaaccgct	tgtgtaattt	gctatgtgta	aaaggccctc		HHTTSYFIQT	ACISIDRYIA	CAESWHTDSY	EVQACPDKRY	CVIYSLSNSV	atgtgtttt	gatgacattg	caagtgtctc	actgtattgg	acaatgaatc	gttatccttc	tgtgtatctt	tatgacatct	argararcca
	NP 005284.1	1					NM_005294	ı																	NP 005285.1	1					NM_005295								
	G Protein-	Coupled	Receptor	GPR20			G Protein-	Coupled	Receptor	GPR21							•								G Protein-	Coupled	Receptor	GPR21			G Protein-	Coupled	Receptor	GPR22					
	3857						3858																		3858						3859								
	259						260																		261						262								

	Homo sapiens	Homo sapiens
caaga cactttatg tgtcagtaca cctgt tagtacagat cccaatattc saaa tacttcaggc tcttaatatt gaaag caagaaagaa aaagacaatt scaaa gcagtggtgg gagaaatgta gccc tccggcgagc tgtgaaacga sagga tgtctttatt atgtttaggc ttag tcattggtta tggaacaact saat tccaaaaggt cttgaaaagt sgatc ccctgcctaa taatgctgta saaaa ttacctttga agatagtgaa		ticty gtaggattca ccaggaaact A tgaag ggaggagaa tggtgggaga fgcattct ccagcaggat gtcagttctc ccttc tgtccccagg atcacctct fgctt cggtggttcgg caccatctgc cacg tcgtgaagaa gtccaagctg caccatcgg tcgtgaagaa gtccaagctg catgg gcaatgggt gtggcactt tgcca atagtcagt caccagcact ggcca ctgtccacc cattctcc gatct gcctcttgg ggccctctcc acta tcccttcc agact tcccttcc acta tcccttcc agagaggtgaact caccattac agagaggaca cgtac tcttgtgga ctggggacacc catca tccctttggtt cacctgtac catca tccctttggt cacctgtac catca cagagaggacacc catca tctttgtgg ctggggacaccccacc cacca caccaccac ccagc ccagct cttttgtggacccccccccc
ttcaaagtgg aaatacctgg gaaaacaaga acactgaact gggaatgtat tatcacctgt ttgtagtaat gttaatcaca tacaccaaa caagattttc aacagggcag aagaagaag cacaacatga ggctacagac atgtcacaaa taagaacttc agtttctgta ataattgccc gacgagaaag acaaaagaga gtcttcagga ttttagtaaa attaagattg tgtttttaaata ttttagtaaa attaagattg tgtttttaaata ctctattata tgcattcact agacaaaaaa agcgagttgt ttctatagta agacaaaaaa cttggataga tcccaaaaga aacaaaaaaa aacqttgat gcctcadgtt qtcacaaaaa	SSNITYR DDIDDINTUM 18VSNII TMNLHVLDVI FAITLDR YDISVKPANR ILLCVST NEYYTELGMY ARKKTI SLTTQHEATD 1SLLIIS TELLCWTPIS TQKVLKS KMKKRVVSIV	cttccaagac agatggctca gggcactctg ggaaaaggga caagattagc aacagtgaag tgaacggtgg gtcgctggag gctgagcatg ccatgtcaaa cagccaacgc ttgctccttc gcatctccta catcaacatc atcatgcctt tcatcgggaa ctcaacggtc atcttcgcgg acaacgtccc cgacatcttc atcatcaacc gcatgccctt catgatccac cagctcatgg tgtgcacct catgatccac cagctcatgg tgtgcacct catgaccac cagctcatgg ggaagcctt gtggccac ctggtgatct tcaccctgt gtggctgtat gccagactca ggaagcctc gccaaccc ctggtgatct tggcctttgc ctgctttt gtggtcatca tggacgtcct agtggcccc gcctcccagc cccgcacagc catggccct gtcgggct tacagctgac catggcctct gtggtgct tacagctgac catggcctct gtggtcatca ggacgtcct agtggccct gccacagc cccgcacagc ctggtgtct gccagac gcgccatcag cttgggccatc gtcggcgc gggcatcag cttgggctat gccaacagc gggcatcag cttgggctat gccaacagc gggaagtt ccgcaacgc ttggtcctgt gggaagtt ccgcaacagc ttggtcctgt
tttttcagtc ttcg aatgaatact acac tttttcactg ttgg cgaataggca caag tctctaacca cac gtctttggtg taac caccgtgaac gac acatttctct tctc ccaagtgacc ttt atattccacc ctc aaaatgaaaa agc atacacaact ctc	1 MCFSPILEIN TVLVLYCMKS CVSFASVSTA FFSLQSGNTW RIGTRFSTGQ HRERRERQKR IFHPLLYAFT	atgitigite catggagaag ggattecaga agagcaaage cgcacgggga ctcctgggca cactggtgca ttctcctgg ggggagaca tacatcctga acgaagttec ttcatcagaa agaaggttec cagtttttec cagttttec cagtattec cagtatagaa aagaaggggga aacaatg
	NP_005286.	NM_005297
	G Protein- Coupled Receptor GPR22	G Protein- Coupled Receptor SLC/MCH1
	3859 859	3860
	263	. 264

	Homo sapiens	Homo	Homo sapiens	Homo sapiens
	ρι	4	Δ.	4
	AEHASRMSVL IFAVVKKSKL MDANSQFTST ARLIPFPGGA ASQRSIRLRT ANSCLNPFVY	ctactcgggg cggctacgtc cgcctttgtg cgtgctgcac ggcggcggct cctggcgggc ctggcggg ctcgtgctgc ggggttgcag ctccagggc cctttctgc cctttctgc cctttctgc cctttctgc cctttcagc gcccttcagc gcccttcagc gcccttcagc gcccttcagc gcccttcagc gcccttcagc	AVGLLGNAFV CKLSTFALAG LPSLVYRGLQ PPHVGRARRN ATCLAFVNSC OAANTASASW	
	GFOMNGGSLE LLGIIGNSTV GETMCTLITA FISITPVWLY LQRMTSSVAP LYNAAISLGY		YIPALYLAAF RRPWPFGDGL GVWAVALLAG YCRISRRLRR LLALRWGLTI	
	NSEGRENGGR IMPSVEGTIC QLMGNGVWHF LVICLLWALS VVITAAYVRI ISRPTLTFVY		PAGDLPYGYV TIPLWAAAAA TPRCAVASCC VIPLVVTLFC LGALPLPCPL	
	HGEGKRDKIS RTGSISYINI FLLGMPEMIH TKFRKPSVAT QFFLAFALPF YYVLQLTQLS		LDGLEELELC LAAADLGFVL VKLLEARPLR LSLLLLLLTF ALRAVFHLAR	
	GHSGRIHQET LLLLSPGSPP IINLSVVDLL YLATVHPISS DTDLYWFTLY CLVFFVCWAP		PGSAPWDYSG RRLVDTEVLH GMSVDRYLAV GEEPSHAFQG TFVGSWLPFS RSFRARALDG	
ggcacctga	MICPSKTDGS RAKPMSNSQR HWCNNVPDIF YILTAMAIDR VGCGIRLPNP KRVTRTAIAI	tragaccecca tragaccecca gtgacgceg ctggcggcegt acgcgctcgg gtgaagctgc gtgaagctgg ccctgcctgg ctcagcttgc tactgccgca tactgcggg ctgctgcgca gcctgcggg gcctgcggg gcctgcggg	MAPTEPWSPS VWLLAGRRGP TRSAGALLLA PLPGGQDSQC SLRIIFALES	atgatgtggg gtaagcaggg gtggtggcca gtcctggccg ttctgcatcg
	NP_005288.1	NM_005298	NP_005289.1	NM_005281
	G Protein- Coupled Receptor SLC/MCH1	G Protein- Coupled Receptor GPR25	G Protein- Coupled Receptor GPR25	G Protein- Coupled Receptor GPR3
	3860	3861	3861	3862
	265	266	267	268

	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
atgtgatgct ggccttagtg cctggaactg cctggatggc atctggtagt tctggccatt cccaaatctg ccgcatcgtc tgcctgcctc ccactatgtg gagcctttgc ggcctgctgg ctccacctct ctacacctat ctatcatcta cgccttccgc gctgttcctc ttccaagatc	KAWDVVLCIS GTLVSCENAL P FCIGSAEMSL VLVGVLAMAF WGGALGLGLL PVLAWNCLDG CRHAQQIALQ RHLLPASHYV LTLLPATYNS MINPIIYAFR	tggcgctgtg gacettectg A tggcgctgtg gacettectg teaacctgge cetggctgac acctgatgg tggacetectg tggacetectg tggacetecag ccgggcct caccetegg tetegggcc agactecace gatetectga gaactecace gatetectga tgaggaagca tgttetgaa tgagggaatc agettettgc etgettectg geagggcct ttgtgcagtg acagtgtcgt caacccogtg gaagggtett caacaccctc ccagaggaete caacaccctc ccagagactc ctattectga	FRVRVWKPYA VYLLNLALAD P GMAFLAAVAL DRYLRVVHPR RCHSFYSRAD GSFSIIWQEA QALVTLVVVL FALCFLPCFL VYCFSSPTFR SSYRRVFHTL	ggaaatgcca gcactcccac A tgtcctatct caacacttcc tattacttca atatggctac
acacggacct cctgtgctgg tccaagaacc cagctctacg cggcacctgc gtggtgcttg gatgcccact atgatcaacc gtctgctgct tag	TGPAAPLPSP LGLVLHFAAV TRTYVMLALV QLYAQICRIV DAHSPPLYTY	actgtggtgg ggcaacgcgg gccaccttct cgcttcctgc gaccgggagg gcctggggg gcctcgtcg ggcctcatcg tttgggaaac tttgggaaac tttgggaac agctcctatc acctacctac	GNAVALWTFL RFILDLSRSV LISEAAQNST PEKQPKLQRA TYLHSVVNPV	tggggtccta agctgcgctg ccccgccat
actattcaga gacaacagtg ccctgggcct ggggctgctg gtggcgtggt ttatcactc tggtgtttgg catcatgctg cccagcagat tgccttcag agggcattgc cacactggcc ctgtctactg cctgctgggt tccctgccac ctacaactcc tgcagaaagt gctgtgggct cccgctccc cagtgatgtc	WLSAGSGNVN VSSVGPAEGP FRAPMFLLVG SLAVADLLAG TVDRYLSLYN ALTYYSETTV SKNHLVVLAI AFFMVFGIML VVLGAFAACW LPFTVYCLLG	agtgtgggct agcccccagc agtgtggggaa agcgtacgctg gggtctgctg gggtctgctg gtgtgggctgct gccttcctg gtgtgggctgt ccctaagcg ccctaactgc ccctaactgc ccggggcttg gtcttactc ccggggcttg ccctcacttg cccgggaattcagttgt cctccaggaattcacttgt cctccaggaattcacttgt cctccaggaattcactc ccgggaatgcagattcactc cctccagaatccagaattcacagaattcacagaattcaacagaattccaagaatccaagaatgcaagaatgcaagaagaagaagaagaagaagaagaagaagaagaagaa	TVVATAVGVL LGLECGLGLL AAFYLSLQAW HLGRVGCWAL ALGVSGLVWL LMVALTCPGL GLIVFCNAGI IRALQKRLRE LGSCRALCAV AHTSDVTGSL DFNPRDSYS	tacttatctc tgttgctttc tgaactttcc aacactccct cttgtgtctt ctagaacatt
gccctcacct act tggggaggtg cc ctgaccacat gtg gccttcttca tgg tgccgccatg cc gccacccgca agg ttgcccttca ctg cttaccttgc tc aaccaggatg tgg	.1 MMWGAGSPLA WL: VVAIIVGTPA FRU TASIGSLLAI TVI LTTCGVVYPL SKO ATRKGIATLA VVI NQDVQKVLWA VCC	atgccattcc car ctggggctgg agi ttccgggtca ggg catctgttgg ctc gggatggcc gtg gggatggcc tc ctgatggtcg cc aggtgccaca gti atcagggctc tc atcagggctc tc gccagagtcc tc ggcagagtcc tgg gccatacct cgg gccatacct cgg	11 MPFPNCSAPS TV LLLAACLPFL AAI LKVNLLSPQA ALG LSCLQFVLPF GL: ARVLMHIFQN LG: RGKGQAAEPP DFF	ctggtgacct taccacattgcc tgctcacattgcc tgctcatgtattt ct
	NP_005272.	NM_005299	NP_005290.	NM_005282
	G Protein- Coupled Receptor GPR3	G Protein-Coupled Receptor GPR31	G Protein- Coupled Receptor GPR31	G Protein- Coupled Receptor
	3862	3863	1 3863	3864
	269	270	271	272

aggtttatgt tggatgaacc tegtaceggg tatcacgtgc ttcgaggagc gtggcggacc gccctgcaca tegeteacee ggcagctggg ccagcacaat cettetetee aagaatacaa cagatcccat tattttttg tggctcactg agtagctggg taaatggagt tcctgccttg taaattaagt tttttttcca gccgatatag ccgcaattct gagaatgtca gaaggtttgg tggccttgcc gcccacccac gccaagatca tecetegttg agctctgccc ctccctgtgg accatgggca ccgccatccc agcatcgccg aatatctaca gtggtctggg cgagaccgct accatcctcc atcccaccat tgggcggcct cacgacaact cgagctcttc tgagtaaata tctggccaga caacaatgac tgaggcagcc tattaatctc ctgggtggcc ggactgcggc ggccaatgcc agccatgact gatgetgeeg tcccacagtc taatattcat tttgtgctcc caagagatcc gttagattt gagaaatgca gaacataaga gatgaagagg cattcaacag cattgcccag gatgaacctc cttcctgcac cttctacacc cgtgagctcc catgctgctg ctttgcgccc cctcaactgt tgtggccaag agtgcagtcg cagcctcccg actttttgta agtgatgcca acccccatac ttccctctca tgtagaccac tggcctcccg cgaagtgccc ccacctctt cctggctctg cctggctgtg ccaggagaag tgcagctgaa tcccctctca agggctgtgt ctggtcaacc ggagtgcagt cttcccacat taatttttgt ctcctgggct aatagagaag aaaqtqqaaq caagactgag tgcctggagg tccttctcác cccaggagat gcacagccaa aaggaggaga agccgccatg acaggccagg tttattcatt tttttgtgtc ggggcccca ttgggttcat ccgccgtggc tgttccatga ccatggaagg tgctggtctg cttcaccag cccgcagcga aaaacctct cctccaactt atctcttccc ccccagaagc cgcgcgtgga ccaccaactg gcgtctacct gggtggacta tggaccgcta cgtgggcgct ccaccgagcg gccgccctg gtatggaaaa gcaaaccatc cggagaccaa acctccttga acccaacctc aaggggctca gtggggctgc aacgagctgg tgcatctcgg teggegeece gagaagttcc ttectettee ggcagcgtgt atcgccatcg agctcactgg aacgagggcg agcgacaagc aagaggaaca ggggaccagg tccccagttt tggtgtgtca gggcctcctg tgcccaggct ctccagcgat catgcctggc tgatcttgaa tagagatgtg aataaagaca gactcggggg ccctggtcat atctccaagt cagggcagac agaaagggta gctggggaca ttccatccct ctgccgctgt tgcaagctct cgcgtcaaga atctacctgg aggggaagcg cacgtggact cttctggcc agagtgaggt ttccccaggc gtttccagaa ccgcctgcgc ccgcagcgcc ctgcctggtc actcacctcc gccctcccag cgattgtgga ctcactgtgt gtgctcagat tttgcaaagc tgggacaaga taattgccct taaacactcc cctgtcataa gcctccaagg cccgtgggcc ggagggctgc tgtcatcggc gcaacagcgc cccggggtcc cttcctgtgc gggcgccaac cttctgcttt gttcgtgggc ggccgtgcgg cctcagcctc tgcataccac tggcacagaa tatgcaaatt ctcctgggct tgagcccacc aaaagtctgt ataaacagcg gaagggcaat gctgggtggg tccatacata agcccagcct catctgcacg agggcactgt aagtttctag cagcctccac acaagtggat gaactcaagt gaagaaggtg tcagcatcgc tctatcgggt gcatcctgcg cggccactcc gaacttagga gagacagggt ctcactatgt gcctcccaaa caaacatttg agtcattatg acatacttcc gtctcctcca acacactgac agacttccct ttcccagccc gttcccctga cccacagcc accacacgtg tctacatct accgccaggt acctgctgta ggatccacgg tecgettege ccacggagct acaaccacac ageggetgge tcttgctgtc gcgtctttc ccatcctcta acctgctccg tggagaccc gaaccccgag tggtctggtg cacagtttgg accacaaatg

	ОШОН	sapiens						Ношо	sapiens																	;	Ношо	sapiens						Ношо	sapiens				
	ELGVYLMNLS F	ISVDRYLAVA	KFPMEGWVAW	AIVLVCFAPY	EGARSDVAKA	DQVQLKMLPP		ggccgaagga A	acccctgct	ctcgcagctg	gctcctgtgc	cgcgtccact	tgacctgttg	ggagactgtg	cagcctgctg	ctcgcgccgg	aggcctgggg	cgtggtgcgc	cttcggcatc	ccagatcgcg	tgtgggtaca	ctattgcgtg	cgccacctac	gegeeetg	gtctcccagc		NGSLELSSQL P	VGSLATADLL	YNALTYYSRR	SAAFFMVFGI	SWLPFAIYCV	KVPFRSRSPS		ggacccggcg A	ggtggctgta	cgtgctgtac	caacctggcc	cctgctgcgg	gtacaacacc
		IXISIAFLCC		KIKRLALSLI	ADPILYCLVN	SWAATPPSQG		tggtagtggc	gcgaatgggg	tggagctgtc	cgtgggacgt	tggcgctcat	tggccaccgc	tggtgccctc	cctctgtcag	tcacctatta	ccgtgtccct	ccgcctgcag	tcttcatggt	gccacgcgca	ccagaaaggg	ccttcgccat	ccctgctgcc	aggagatcca	ttcgttccag		•	PALRTPMEVL	AITVDRYLSL	PLARSHVALL	LAWLGTEGA	WLLLCGCFQS		catcgggccc	cgccgctggc	gcaactccgc	tgttcatcct	tegeegaett	ctatcgacca
aaaaatatgt	GLPTNCLALW	KLFGFIFYTN	APLEHDELFR	SVSTERQEKA	SLAFTSINCV	RNSTAKAMTG		tcccaggtgg	ccggacacgg	aatgggtctc	gcggtgaatc	gcgctggtgg	gtaggcagcc	ttccagtact	tccttcgccg	tataacgcgc	gccacttgga	gcagagcgcg	tecgeegeet	gtggtctggc	ctcgctgcca	agctggctgc	acttacgcca	ttccgcaacc	aaagtgccct			•	SFAASVSSLL	•	LAATRKGVGT	FRNQEIQRAL							ctcatcgtgg
caagtaaata	PSLYIFVIGV	DNWIHGPGSC	<b>VWATELGANS</b>	YRGILRAVRG	<b>EERVFSAYHS</b>	LTLETPLTSK		gctcaacgac	agcagggggg	cggcggagct	cctgctgcca	tggagaaaac	gttcgtgctg	gcactttgtg	cctcgtggcc	cctgtccctg	cctgcttgcc	gaactgcctg	ggctctgctc	catctgccag	gccacccat	tttcggcgcc	ggcggtctac	catctatgcc	tttccagtcc				SLLTVGFLVA		LOOHCLAPPH	NSMINPIIYA			-				catgtgcaag
tcaccataca	VDSRVDHLFP	PLWVDYFLHH	VKTAVAVSSV	LFPWALMLLS	YLGRPWDCGF	DKPQEMANAS		gagaadaacta	cggccacagc	taggagccgg	caccgggact	cagtgatcgc	gcacgcccat	gcctcatctt	cggtgggctt	tggaccgcta	gcgtgcacct	tgctgggctg	gcagccacgt	tgtacgtgcg	actgcctggc	tgctgggcac	atgaggaccc	tcaatcccat	tctgtggctg			•	FOYLVPSETV	ATWTVSLGLG	VVWRHAHQIA	TYATLLPATY							teggggaget
	_	IADLLYICTL	HPLREARLRR	MNLYRVFVGF	HVLLLSRSAI	LHNLLRFLAS	₽ P	atgaacgcga	<b>BCGBCGBCGG</b>	gcggcggctc	teggetggge	gtgtcgggga	ccggcgctgc	gcgggctgtg	agtctgctca	gccattacgg	accctgttgg	ctgctgcccg	ccgctggcgc	atgctgcacc	ctgcagcagc	ctggctgtgg	gtgggcagcc	aactccatga	tggctcctgc	_	_	SAGPPGLLLP	AGCGLILHEV	TLLGVHLLLA	MLHLYVRICQ	VGSHEDPAVY	EV	atggacaacg	ctgagctgct	ccagttgtct	gtgttgctgc	atcgccgacg	cagtggccct
•	NP_005273.1							NM_005284																			NP_005275.1							. NM_005285 .					
	G Protein-	Conpled	Receptor	GPR4				G Protein-	Conpled	Receptor	GPR6																G Protein-	Coupled	Receptor	GPR6				G Protein-	Coupled	Receptor	GPR7		
	3864							3866																			3866							3867					
į	273							274																			275							276					

Homo santens	מוס בולטים	Homo sapiens	Homo sapiens
gctacctggt ggtgttggcc ccgcgcgcg ggtgagcctg cagtcttcgc ccggctagac agcccgaggc cttctggtgg tcccgtgtc caccatctgt ggctggacag ccacgccaag tggcaatcct ggcggtgtgc cgctcaccac cgacctcccg gcctgacgta cgccaacagc tccgcaggaa cctccgccag	WWEFGELMCA LIVALDZINI AVWGIVTLVV LPFAVFARLD VLYTTLICRL HAMRLDSHAK QTPLVIAISY FITSLTYANS	gctccttctc atgccacctt ggatctgtgc ccaagatgaa tcacgctggt acctgcctg tcacagtcct tctacactt acctcctgcg ccaagctg ccaagctgc ccaagctgcg	tcatcagtat gtcctacgtc tcctctacgc cttctagat ga LPFLYVLLPA VYSGICAVGL P NJAEHLLQYW PFGELLCKLV RGAKVASLCV WLGVTVLVLP FVLPVCTICV LYTDLLRRLR VVALTTDLPQ TPLVISMSYV
caccgtcatg agcgccgacc actcgtcgtcg cacctacagg gtgcgtgtg ctgccttcg gtgcgtgtg ggcttccgc gctcgtgctg ggcttccgca gtgccggctg catgccatgc gcggtgacc ttcctggtgg ccacctgagc accgtggtgg tatctcctac ttcatcacca agcctga LSCSNASTLA PLPAPLAVAV		agagecectt gacageaggg ggacaatgge actggccaca ectgcccgc gtagggccc ggcgttcgc gacgggctct gacgtactgg ecettcgggg catcttctc agcatctact ggccaccgtg aggtcccgc cctgtgtgt tggttgggg ctacagcac gagttgcagg ctgttcaag gccagccgtg catctgtgtg ctctacaca agccaaggct ctaggcaagg	cctgcccag acccactgg caactcgtgc ctgaaccct ccgcagcata ttgcggtgct MGANVSQDNG TGHNATFSEP NVFILNLAVA DGLFTLVLPV FPWFERVWFK ASRVYTLVLG LVLVVLAVCL LCWTPFHLAS DNFRKNFRSI LRC
ttctccagcc tctacttcct actgcggggggggggggg	VINLEILNLA SADRYLVVLA VEPQPEAEWW FLVVAILAVC DASFRRNIRQ	acgtetetea tetatgtget cggeegteat tectgaacet accactacta accactacta aggtegecag tegetggegt cegagegggt cegagegggt cegagegggt cegagegggt cegagegggt tegetgtgeac tegetgtgeac	gtcgtggccc tgaccacgga atcaccagcc tcacgtacgc gacaacttcc ggaagaactt MQAAGHPEPL DSRGSFSLPT TGNTAVILVI LRAPKMKTVT LAVDHYNIFS SIYFLAVMSV FFSFAGVYSN ELQVPSCGLS AVRLRSGAKA LGKARRKVTV ITSLTYANSC LNPFLYAFLD
NP_005276.1		им_005286	NP_005277.1
G Protein-	Coupled Receptor GPR7	G Protein- Coupled Receptor GPR8	G Protein- Coupled Receptor GPR8
277 3867		3868 3868	279 3868

Homo sapiens	Homo sapiens
egegetecat eggaeteact ageegeacte A ctgggaaatag acaagaagaa etgetgggg eggetggt gtagetett tecaceteaa gteetggaaa gtagetegt tecacetea gteetgaea tetetettt tecaceteat catetgeetg teagactgga ettetetge eggeaggga actttgggga catecettge eggeaggga actttgggga catecettge eatetgeetg catecetge catetgeetg catetgeetg aattactgga cateaggtg cataacagtc acttactgga catetgggg catetgeetgeetgggateteetgggga cateaggtg acttactgga catetgggga ecttagggga ecttegggga ectteggggt categggga ecttegggg catetgggga ecttegggga ecteacete eggagggage eggeggggga eatetggggga ectacacte eggagggage eggeggggga ectacacte eggagggage eggegggggggggggggggggggggg	GLLGNGLALW RLVLFMEAMN HLLKKKLLIQ DRHAKIKRAI SFTYMUSMLD
accatctgca ggatcactt ctggaaatag acttcattgc caaggtgttg ccgccggtgt gcaatggcct tgccctgtgg atttcctgtt tttcctgtt caacctggca gtagctgac tggactacta tgtgcggcgt tcagactgga tcttcatgtt tgccatgaac cgccagggca acaggaagtt tgcatgacca catccccac caagcattca gtggagccat ctgtggggca ataccttccg gtggagccat ctgtggggca tcctgttctg gtggagccat acttcatca agaataacag agtgagccat acttcatca acatgaacag agtgagccat ccgtggtgt tcttctccac gagggaccat cggatcggg acattgacag agtgttgtg tcttctccac gagggaccat cggtgggg acattccac gagggaccat cggtgggg acattccac gagggaccat tgtcaccag ggtaatcac gagggacat tgtcaccag ggtaatcac gagggacat tgtcaccag gaggaacca gagggacat tgtcaccag gaggaccat tgggaaact acattccac gagggacat tgtcaccag gaggaacca gagggacat tgtcaccag gaggaacca gagggacat tgtcaccag gaggaacca gagggacat tgtcaccag gttgcatcgg gaggaact attggaagga attgtgttg tcctcggc gaggaacca gactgaact attggaggga attgtgttg tcctggagga attggaggac cacatgctttg gaaggaacca acatgctttg ccccagaaagg ctcagagca caaccagga ttcaggaca caaccagga ttcaggatag aacagtgtta aaacgtgcct ttaaggacag caattcctct ttaaaacggc ttcaggatag aaaagctgttt aaacgtgcct ttaaggacag acaatcctct ttaaaacggc ttcaggatag aaaagctgttt aaacgtgcct ttaagagagaga	FRDDFIAKVL PFVMDYYVRR NWTAAIISCL LGIILFCSAR SGTQNCEVYR
cgccactttg atgaatcggc ttccgagatg gggcttctgg tccagccgga ccgttcgtga cggttgctggtgc gtggcggtag aattggacag agcatctgcc ctgggcatca cgggcatca cgggcatca cgggcatca cgggcatca cgggcatca cggtcaccc tttcccaact ccagataata acctcaaata cagttgggct cagattcaga gtgtgaccac ttcccaact cagattcaga agcttcacat ttcccaact cagattcaga ggggggct cagattcaga agttggacca gggggggct agttggacca gggggggct ggggggct ggggggct cagattcaga attcaga agttggaccac ttcatctttag agttggaccaca agttggaccaca ttcatctttag ttggtgaccag agccagtagg ttggactcagg agccagtagg ttggactcagg agccagtagg ttggactcagg ttggactcagg ttgctgctttt	Caaaaaaaa .1 MNRHHLQDHF SSRIFLFNLA VAVDRYFRVV SICHTFRWHE VICFLPSVVV FPNFFSTLIN
NM_006018	NP_006009
G Protein-Coupled Receptor HM74	G Protein- Coupled Receptor HM74
3869	3869
580	281

	Ношо	sapiens																		Ношо	sapiens						Ношо	sapiens											
	taccatccac A	ggccaactgc	cgtgtacctg	gctgcagtac	cggcatcctc	ggaccgctac	ggccgtcggc	gatgcacgag	catccaggca	catctgcctg	cacccagaag	cctggcctgc	ctgcgacttc	caactgcgtc	ggcccgcctc	ggaggcctac	gcccgagctg	cgggttcccc		KARNELGVYL P	FLCCISVDRY	VCFEHYPIQA	LSTWIFLAC	ETTHRDLARL	PNSPGSGGFP		agagcccaga A	მმმმილმმიი	gggcatcctg	actggcggcc	tgcgcgcaac	cgccttcgcc	ggagcgctgc	cgcccgcctg	gctgggcctg	ctgggcccag	ggtggctgcc	ccagcagaag	ggaccacctg
	ccatcgacca ta	tgggcttccc g		tgcccttctg g	gccaggtgtg c	gcatctccgt g	ccctgaagge g	_	agcactaccc c	tectettece e	ggagccacgg c	tggtcatctt c	gggaggccag c	tcaccagett	accgggacct g	gccgggccag g	agggtgagga g	cagggtcggg		LSLYFGYLQI	LYENIYISVG	EVIEDENQHR V	SRKDQIQRLV	ADPVLYCFVS	LTKLHPAFQT		gcaagactgg	ggggctcggt	ggctggccct g	tggtcaccgg	tcgtggccta	gcgatgcctt	ccatggccgt	ggccccgctg	cgctgcccct	tccgcatgcg	tggccctgct	gcatgtaccg	aggacgaggt
	atgagctgta	gtgctggtgg	aaggcccgga	atctgctcgc	gacctgtcct	ttcctctgct	cagttccgga	ctgaccagca	gtgtgctttg	ctggtgggct	gccgtgcgcc	ctcagcaccg	cgcagcgtct	tecetectge	gagaccaccc	tccaggaccg	agcggggccc	cctaactcgc		VLVVGFPANC	DISCOVCGIL	LTSIYFLMHE	AVRRSHGTQK	SLLLTSFNCV	SGAQGEEPEL		gagagcctgg	acctacgtgc	gtgggcaacg	ttcgcggtgc	ccggccgtgt	cccgccctgt	atcctctttg	cagctggacg	ctcttctgcg	tggtgcttcc	gccggcctgg	agcctctgcc	cgcaccggag
<b>OLGCCIE</b>	caactcctcg	ctatġttacc	cctgcagatc	cctcttctac	gtctcacggc	cagcgtgggc	ccgcttccac	caaggagctg	ccagcaccgc	ctaccgcttc	catcctgcgc	geggetggtg	gctgctggtg	ctaccacttc	cttcgtcagc	cctcacctgc	ctccgggaaa	cttccagacc		<b>QTLAPWYVT</b>	VLQHDNWSHG	VSVVIWAKEL	LLASYQGILR	AKGVENAYHE	PLGAPEASGK		cacgggacag	caggaacctc	ggccggtgtg	cccctcggcc	cttcctgagc	ccgaggcggc	gtccatgctc	cctctacgcg	cttctgcgtc	ccccggcagc	gctggcctac	ggtcaccctc	tccacggccg
CHQEPASLEK	tcactgcaga	ccccggtggt	acttcggcta	cggtggccga	acgacaactg	acatctacat	cccatccctt	tcatctgggc	aggacgagaa	ccatcaacta	cctaccaggg	accagatcca	accacgtgtt	ttttcaacgc	tgctctactg	gcctggcctt	ccccgaggc	tccacccggc	tggcctag	MSCTIDHTIH	ICSLPFWLQY	<b>QFRTLKAAVG</b>	LVGFLFPICL	RSVWEASCDF	SRTGRAREAY		ggcacagacg	cggattcgtg	tgatgttcgt	gaccggcgcg	tgggcaccag	tgggcctggc	teggeetgge	gccacccta	ccatctacgc	agcagtactg	ccgccttctc	gcaacggctc	gctctctggg
TSNNHSKKGH	atggggaaca	cagacgctgg	ctgtccctct	tgcaacctga	gtgctgcagc	ctgtacgaga	ctggctgtgg	gtcagcgtgg	gaggtcatcg	tggcagcgcg	ctgctggcgt	agccgcaagg	ttcctgccct	gccaagggcg	gccgaccccg	cgcggggcct	ccgctgggtg	ttgaccaage	acgggcaggt	MGNITADNSS	CNLTVADLFY	LAVAHPEREH	WORAINYYRF	FLPYHVLLLV	RGACLAFLTC	TGRLA	agcaagtgaa	cctgggatgg	accagcaccc	agcgcacggc	accgacctgc	agctccctgc	atgaccttct	ctggcgctga	gcgctgccag	ggccaacacc	ငငရဲရဲရငရဲရငရဲ	atcttcctct	cgccaccagg
	NM_003485													•						NP_003476.1	l						MM_000960		•										
	G Protein-	Coupled	Receptor	OGR1																G Protein-	Coupled	Receptor	OGR1				Prostacyclin NM_00096	Receptor											
	3870																			3870							3921												
	282																			283							284												

	Homo sapiens	Homo sapiens	Homo sapiens
ccctgcctct cacgatccgc tcatccttt ccttgccttc tcatcctttt ccgcaaggct acccaagggc ccacggagac acccaagggc cccttgct ggggcgaggg gcagttgag gaacgtcgtc caaagcagaa ccctgtgatc tctgccctgt tggctgcgga tgctggaacc ctgcggcagg gcagtcgctg tcctggagtg cagaaagaat ggccctggat tcccatcca aggcttctgt acagtcaggt aggaggcca actgccacc ctccaagagc cagcccctt aggaggccca actgccacc ctccaagagc cagcccctt ccttcccttg ccgctggtc aggaggccta acagtcaggt aggaggccta acagtcaggt aggaggccta acagtcacc	RRPARPSAFA VLVTGLAATD P FFGLASMLIL FAWAVERCLA HQQYCPGSWC FLRWRWAQPG QGSLGPRPRT GEDEVDHLIL YAFNPILDPW VFILFRKAVF GKEGSCVPLS AWGEGQVEPL	caccggcgc tgcagcggca A gacgggaggg aagcgtcccc ctgatgaccg tgctcttcac gcatttaagg atgtcaagga ttgcgatttc tatctgtgat ccagtatttc ggatattttt tgcagcaatt ccactaacat ctgaggaata tgtcacatt	LARSGLGWCS RRPLRPLPSV P DNSLCQAFAF FMSFFGLSST LAFCALPFMG FGKFVQYCPG AMRNLYAMHR FLQRHPRSCT VIYRAYYGAF KDVKEKNRTS RPLRYRSRCS NSTNMESSL
gccgtgtgct agcagtgaga ccctgggtct tgcctgtgcc gggaggaggg ttgtcggctg ttcaagctga acatggctga acatggctga gctgtttctc gaaacgtta gacctgctct aagttcccag gcgtccactt taccaagcca aagttcccag ttaccaagca ttaccaagca ttacaagca ttacaagca ttacaagca ttacaagca ttacaagca ttacaagca ttacaagca ttacaagca ttacaagca aaggggcaac	NGLALGILSA LCDAFAFAMT CALPLIGIGO CRMYRQQKRH EMGDLLAFRF RDPRAPSAFV	ctatgcgatg gccgcgcgcg gctgctggcg ttactatgga cctccgagcc tttcagatct caggagccgg	LLGNLLALGL RSLRVLAPAL LVAPVVSAFS VLATVLCNLG TVLFTMCSLP
coctcatgae agtggtcatg aggctgtcge coctgacage cottcaacce catectggae gactcaaget ctgggtctge cocttcoca getggcctc aggagggag ctgctgcct ccacacagea gtccagcgg cctgctcct ctgctgacat caggagccag aaaatcaggg aactctgggg ccgatcaggg aactctgggg ccgatcaggg aaataacag gaagagatt agaggggag ctgggtgctg gctccaatct aggggatgct gctccaatct aggggatgc ctccccctc aaaaaccaca gttattggaa ttgggagcc tggcatccatct	VRGSVGPATS TIMEVAGVVG VFVAXARNSS LIGIARGGPA DGPRCARLAL PAIYAFCVLF LVALLVAAIF LCNGSVTLSL CSLPITIRCF TQAVAPDSSS CLGPAHGDSQ TPLSQLASGR VGTSSKAFAS VACSIC		AACCA TISVEKGNSA VMGGVLFSTG TDLLGKCLLS PVVLAAYAQN WLSLGHPFFY RRHITLRLGA EGSLSVLGYS VLYSSLMALL REASPQPLEE LDHLLLLAIM FLSVISIVDP WIFIIFRSPV
atcetyactag cectic dettecace aggete gettetacac cette tegeagacac cect tegeagacac cect cetytyagaa aggaa cettygete ceaca geagateg cetyc ttggcccca aact ttggcccca aact ctggttetes aaata tetattgte taaat tetattgte taaat ctgctctgg cagga ggttetetea tetacttgte caaa tetacttgte caaat ctgctctag cagga ggttetetea	DSCRNLTY GTSFLSPA HPYLYAQL AFSLAYAG LMTVVMAV LKLWVCCL		CCAGLCACAGO ACCA MKSPFYRCON TISVE FYMLVCGLTV TDLLG LQLLAMALEC WLSLG TWCFIQMVHE EGSLS RDCAEPRADG REASP EEAEDLRALR FLSVI
	NP_000951.1	U31099	Q13258
	Prostacyclin NP_00095 Receptor	Prostaglandi U31099 n D2 Receptor	Prostaglandi n D2 Receptor
	3921	3923	3923
	285	286	287

Homo sapiens	Homo sapiens	Homo sapiens
atcccaggca gagcctggcg gacaccacc gatccgggc ctgccactc tggcatggc ctggtcgc ctcggtcgc ctcggcctg catcggcct gatgctgcc ctcggcct ctcggcct ctcggcct gatgctgcc ctcggcct ctcggcct gatgctgcc ctcggcct ctcggcct gatgctgcc ctcggcct ctcggcct gatgctgcc ctcggcct ctcggcct ctcggcct gatgcgcc ctcggcct ctcggcct cctcggcct cctcggcct cctcggcct cctcggcct cctcggcct cctcggcct cctcggcct cctcggcct cctcggccca cctcggccca cctcggccca cctcggccca cctcgccca cctcgccca cctcgccca cctcgccca cctcgccca cctcgccca cctcgccca cccacacac cctcgccca ccccacacac cctcgccca cctcgccca cccacacac cccacacacac ccccacacac cccacacacacac cccacacacacacac cccacacacacacacac cccacacacacacacacacacacacacacacacacacaca	at aaaaagccat tetgeg FI FSMTLGAVSN LIALALLAQA P YT AGRAPAGGAC HFLGGCMVFF AA VAAVALAVAL LFLARVGRYE LV CNTLSGLALH RARWRRRSRR SR SSGSARRARA HDVEMVGQLV LA SWNQILDPWV YILLRQAVLR	tg gattteggte ceteceettt A ct tecteceagg taaaggeegg gg geaatgeete eaatgaetee ag gegaaageee ageeateage ag caetggeget getggtegege ga getecetet ettgtteeae ga cetgeeteat eageeagtg ac tggegeeegg gageeggegg gg ceaegatget eatgetette et acttetacea gegeegege te acttetacea gegeegege te acttetacea gegeegege te acttetacea gegeegege te acttetacea gegeegege tg eagteteeet
0.0000.000	ggcgcagagc ctttgggaat PWVPNTSAVP PSGASPALPI TAILLAGHVI PGALVIRLYT RPLLHAARVS VARARLALAA ALLAGLFASI GLVALLAALV ASASSASSIA SASTFFGGSR VGGWSSTSLG RPLFLAVRLA LTPSAWEASS LRSSRHSGLS	
gggctgagcg tgacatgagc catcttetcc ggccgcgggc cctgctggcc cattggcctg cttcggcctg cttcggcctg cacgcgccg caggcactg ggggcgccc tgagctgcac ccaggcactg ggggcctcc tcggagcac acggcctcc tcggagcac acggcctcc tcggagcac acggcctcc tcggagcac acggcctcc ccaggcctcc ccaggcctcc ccaggcctcc acggcctcc tgcgagcac tgcgagcac tgcgagcac acggcctcc ccaggcctcc ccaggcctcc ccaggcctcc acggcctcc tgcgagcac tgcgagcac tgcgagcac tgcgagcac tgcgagcac tgcgagcac acggcctcc ccaggcctcc ccaggcctcc ccaggcctcc ccaggcctcc ccaggcctcc acggcctcc tgccgcac	CCAGGEATTCAA LAGEATTCAA TTFLLFVASL MAVERCVGVT GLGFPGGWRQ RRWGAHGPRS SPMLVLVALA GAKGGPAGLG	cggcgcgctg tctcggaacg cgcatctctt actgcgagac tctcggccgg gggacgtggg ccgagctggt cgtacgcgcg tcgcttcgc tggagcgcta
gggggcggca ccacatgcgc ccacatgcgc ccacatgcgc tgctggccag tgctggccag tgcgtctgta gcatggtctt tggcgctggc tggcgctggc tggcgctggc tggcgctggc tggcgctggc tgggcggct tgggcggct gcggcgcgct tgggcggct tgggcggct tgggcggct tgggcggct acggcggct tggtggcgct tggtggcgct tggtggcgct tggtggcgct ccgtgcgcct ccgtgcgcct ccgtgcgcct aggccgtgct ccgtgcgcct tggtggcgct tggtggcgct tggtggcgct ccgtgcgcct ccgtgcgcct ccgtgcgcct aggccgtgct ccgtgcgcct ccgtgcgcct ccgtgcgcct aggccgtgct ccgtgcgcct ccgtgcgcct ccgtgcgcct aggccgtgct ccgtgcgcct ccgtgcgcct ccgtgcgcct aggccgtgct ccgtgcgcct ccgtgcgcct aggccgtgct ccgtgcgcct aggccgtgct ccgtgcgcct ccgtgcgcct aggccgtgct ccgtgcgcct aggccgtgct ccgtgcgcct aggccgtgct	tgggctgggc 1 MSPCGPLNLS AGRLRRRSA GLCPLLLGCG LQYPGTWCFI PPPASGPDSR GIMVLLPPRA OLLRLLPPRA	gagececegt ttectetgag gagaggaggg eagtetgagg tecgteatgt egetggeggg gtgetggtga gtactggett tgeacetact gceatggece tcggcetecg
NM_000955	NP_000946.	NM_000956
Prostaglandi NM_000955 n E Receptor EP1	Prostaglandi n E Receptor EP1	Prostaglandi n E Receptor EP2
3924	3924	3925
2 8 8	289	290

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	crggrgcrc acttotatt	gereceare	gcaccgccga	<b>ი</b> მშმშიიმე	cctggctatc	tatqaatqaa	aattaattoa		aargegreea	ctgttctaca	ttcttagtta	agtgtgtaaa	gtcaaggcta	acctaccctc	ccagctgcct	gtttgaaacc	catatagtgt	tggaagcaac	agttgaaaat	ctacagtatt	cctccaggaa	agtgatcaag	gcagttaatt	tgtatgaagc	tggaaccett	tgttgtacca	atatgggaaa	aaatgtaaac	tgtaaactca		RGDVGCSAGR P	YFAFAMTFFS	PLLDYGQYVQ	RSRCGPSLGS	SRKEKWDLQA	DASKQADL	K			ccctggcgcc A	ccatgggggg	gcgtctgccc
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4	grecagiaci	הרקרמרשרים הדרות השרים	atteteaace	ggcagtggcc	gagacggacc	ccttcacda	caagetetta	200000000000000000000000000000000000000	aggeereerg	caagatgcaa	tgaggtcagt	ttccctggag	atacaaacat	gtgtcagaag	caatcggctg	agtatgtggt	cttgctacta	atctctagga	accetttatt	atgtgggagt	catcagttt	tataatgtcc	aataatagaa	ggggaggatg	ggttcattct	tagattttat		tttctaaatg	ctgtttaatc	ca		•		•			gaattttggg				-	cctccgccgc
1	tyggcagtac	tractificay the state	crcagratc	accttccctg	catggcggag	ctactcctta	ataddacete	# 1999# CCCC	rgccarccr	attaagaaca	ggctgacctt	tttgaaattg	aaaaaggagt	ttcatgtaaa		tgaatgacaa			cacttagcga	atgtttgtgt	agtgggttaa	ttatttattt	ctcaacaaga	cctatttctg		_	tatttagggg	tcttaatata	tgaatttgca			_		ATLLLLLIVS		PVLRLMRSVL	agagcaagag			-	_	taaacgccga
1000	rgcrggacta	ggragarrar	regectgeaa	gccgctgcgg	aaagggtgtc	ccttcaccat	מפשטטפפשט	gadaggada	credddrcr	gtcggatttc	ccagtaaaca	ggaagatcat	ctgccctaat	gacaaggcac	gtacttggcc	gctttcctgt	actgtacttt	cagattaaac	gtcttgtgat	ttttactgtg	gagtggactc	agttgtcagg	gaatggttct	ctcttattat	gcttaaaaac	tattggggcc	gtctatattt	gtgagtcata	aatatttcag	tacaaaaata	EDCETROWLP	•			-	DPWVFAILRP	gaagactcag					ccagccgcgg
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																															NP_000947.1						L32662			NM_000957		
																															Prostaglandi	n E Receptor	EP2				Prostaglandi	n E2	Receptor EP3	Prostaglandi	n E2	Receptor EP3
								•																							3925 E		-				3926 I	·		3926	- '	<b>-</b>
																															291						292			293		

	Homo sapiens	Homo sapiens
tcaaaccaca catgaaggag tcaaccactc ctacacaggc tcacgggccc tcactggtttc accggcgcc tcactggtttc accggcgccg ggagagcaag tcaccgact ggtcggcag agcagtttt cgggctctcc tggccatcag ggcgccatc tggtcatcag ggcgccac tggtgactag ggcgccac tggtggctctt ggcgctgac tggtggctctt ggcgctgac tggtgccatcag tggtccaga aacggaacag tggaacaag tgaaccaag tggaacaag tggaacaag tggaacaag tggaacaag tggaacaag tggaacaag ttgaacaag tttgaacaag tttgaacaa tttgacaag tcattgaaca ttttgaaaca ttttgacaac tattgaaaca ttttgacaac ttttgacaac ttttgacaac ttttgacaac ttttgacaac ttttgacaac aaacaccaa tcactagaa tcattgaaaca ttatcatat ttatcatatg taaaatttgc attaaaagcata attaaaacat attatttgaa attaaaacat attattttgaa attaaaacat attatttgaa attaaaacat atttgtttgt	PGSGEDCGSV SVAFPITMLL P VGQLLTTPVV IVVYLSKQRW APHWYASHMK TRATRAVLLG SSHNWGNLFF ASAFAFLGLL AIQLMGIMCV LSVCWSPLLI LDPWVYLLLR KILLRKFCQM LS	agaccggcgg gcactgcaaa A aaatccagca ccattcttca aaagctggca actctgacct aagccgaaga tttggcagtt
gacgccatce cetecteace tec egecogages eggageaace tea gtecgtage ttecegatea ea getgetegt tegecaget ac gtgetetegt tegecaget ac gtgetegte tegecaget te gategtegt tacetgteca ag cacetttte gggetgaca tg cacetttte gggetgaca tg gacgcgtgc accegetg tg gacgcgtgc accegetg tg gacgcgtgc accegetg tg gacgcgtgc ttggetgg gc cagcaccatt aaggccctgg tg ggccaccatt aaggccctgg tg tgccaccatt aaggccctgg tg tgccaccatt aaggccctgg tg gacgcgtgg gacggagg ttgccaaga ac accagtgg gacggaaga ca aagctgtcg tgctggttc tt ttctcatgat aggaaacet tg ttctcatgat agagaacet tg aaaagaaaaa aaaatcaca aaaaagaaaaa aaaatcaca gtttttgtac ttttactata tg aatttatatt tgcgtataca tt gtttcttgag atttateca tt gtttcttgag atttateca at tagagtatte cataatttga at	YTGWWAPERS AEARGNLTRP PG: ESKRKKSFLL CIGWLALTDL VG GLSSLFIASA MAVERALAIR API VQWPGTWCFI STGRGGNGTS SSI RAKATASQSS AQWGRITTET AI( KQKECNFFLI AVRLASLNQI LDI WRQVPRTWCS SHDREPCSVQ LS	cccgcagacg agcgagtaag caagtttttg cggctttgag
cggctctctgg acggagggga ccgaggggga ccgaggcgttc cattcctgct tcgccagtcgt ggcggctctg tcgccagtcgt ggtgcttcat acctttctt acctttctt ctaggcga tcattagga tcattagga ataaatctgc ttttgggga attaattctc ttttgggga attaattctc ttttgggga attaattctc ttttgggga attaattctc ttttgggga attaattctc ttttgggga attaattctc ttttgggga attaattctc ttttgggga attaattcc ttttgggga attaattcc tttttgggga attaattcc tttttgggga attaattcc tttttgggga attaattcc tttttgggga attaattcc tttttgggga attaaatctgc tttttgggga attaaatctgc tttttgggga attaaatctgc tttttgggga attaaatctgc tttttggggaa attaaatctgc tttttggggaa attaaatctgc tttttggggaa attaaatcttcc tttttggggaa tttttggggaa attaaatcttcc ttccattaattttgt acttttttgt ttaaacattatt ttaaacattatt	APFCTRLNHS LLVSRSYRRR TFFGLTMTVF LPVLGVGQYT ATIKALVSRC SVEHCKTHTE GPDGRCFCHA	tcacacctga gtctttgaag ccgctgcacc aaatcgacag
cctcccgctg acccggggctc atgtgggcgc ggcgaggagtt gtgggaggat cttctcaca gaccgtcgag tcgttgttca tggtatgcga gccgtgctcg actggggca gcacggacgt aactggggca tcgttgttca tggtatgcga gcacggacgt aactggggca tggtgttacc agatgaggaa tggtttacc agatgaggaa tgactcagag tgactcagag tgacttgaag agatgaggaa tgacttgaag agatgaggaa ttatgtcctgt ttatgtccta atttttttac ac	NP_000948.1 MKETRGYGGD TGFVGNALAM EHIDPSGRLC VWLAVLAFAL ALTVTFSCNL MMLKMIFNQT RKRRLREQEM	• • •
	Prostaglandi NP n E2 Receptor EP3	Prostaglandi NM_000958 n E Receptor EP4
	3926	295 3927

	Homo sapiens	Homo sapiens
atctgagggc gccttgcact cgtccgcctc tcatcttcgg agcagaagga gccactacgt gccactacgt tgctcttttg cctggtgct accagggctt accagggctt tccagatggt tccagatggt tccagatggt tccagatggt tccagatggt tccagatggt tccagatggt tccagatggt tccagatggt tccagatggt tccagatggt tccagatggt tctgccgcact tctgccact tctgccact tctgccgcact tctgccgcact tctgccact tctgccact tctacact tctacact tctacact tctacact tctacact tctacact tctacact tctacact tctacact tcagaagagt tctacact tcagaagagt tctacact tcagaagagt tcagaagagt tcagaagagt tcagaagagt tcagaagagt tcagaagagt tcagaagagt tcagaagagt tcagaagagt tcagaagaagaagat tcagaagaagaagat tcagaagaagaagaagaagat tcagaagaagaagaagaagaagaagaagaagaagaagaaga	ETTFYTLVCG P CAMSVERYLA FIDWTTNVTA AAAASVASRG RVFVNQLYQP IGGSRRERSG GRNLLPGVPG SLQVTFPSET	gagcccggct A gagggagatg aacagctagt
ggtccaggac tacagaccca ggggtcaatt tcgcgcaagg gacctgttgg tggcccgggg tccggcctca tatttctaca gcgtccaacg tacccagaca tcctacatg tcccagaca tcccagaca tcccagaca tcccagaca gacgcccgaga tccatcccg gacagtcaaa ctgaaggaga aaatgcctct gacagtcaaa ctgaaggaga agggaagaca ctgaaggaga agggaagaca ctgaaggaga ctgaaggaga ctgaaggaga agggaagaca ctgaaggaga ctgaaggaga ctgaaggaga ctgaaggaga ctgaagaca ctgaaggaga ctgaagaca ctgaagaca ctgaagaca ctgaagaca ctgaagaca ctgaagaca ctgaaaatgcctct gacagtcaaa ctgaaagaca ctgaaagaca ctgaaagaca ctgaaaatgcctct	VLCKSRKEQK FFSLSGLSII SRLQYPDTWC TSLGTEQHHA VLICSIPLVV IPDLSENGLECR IPDLSENGLECR	gctcctcaga acagttttga aacaattcca
gttggaggeg gttgetgeege gtccatcce gaccatcce gaagggcaa cttcagcctg caaccatge tgcagtctat geggetgea ctgcaacgtg ctgcaacgtg ctgcaacgtg ctgcatcge cccatccta geactgecta agagaagatc gccatccta cccatccta agagaagatc gccatccta cccatccta agagaagatc cccatccta agagaagatc cccatccta cccatccta agagaagatc gccagacctc gcagaacatc cccatccta agagaagatc cccatccta agagaagatc cccatccta agagaagatc cccatccta agagaagatc cccatccta agagaagatc cccatccta agagaagatc cccatccta agagaagatc cccatccta agagaagatc cccatccta agagaagatc cccatccta agagaagatc cccatccta agagaagatc cccatccta agagaagatc cccatccta agagactactca cccatccta cccatccta agagactactca cccatccta agagactactca ccccatccta cccatccta agagaagatc		tccgtcttct gcaatcctgc aatgtccatg
gtgaaagcag gcactacaca acagccacat ccatcgtggt tatgtgggct ccacgtacat ttctgctctt acctggccat tcacgctct tcacgctct tcacgctct tcacgcac ccacgtcct tgcgcagca ccacgtcct tgcgcagca ccacgtcct tgcgcaga gaaggggca gcgcaga gaaggggga atcagccaa gcctggtgg atcagcaa gcctggtgg atcagccaa gcctggtgg atcagcaa gcctggtgg atcagcaa gcctggtgg atcagcaa gcctggtgg atcagcaa gcctggtgg atcagcaa gcctggtgg atcagcaa gcctggtgg atcagcaa gcctggtgg atcagcaa gcctggtgg atcagcaa gcctcgaa gcctcgaa gccctgaa gctcctcat agacctcact tgcctggaa gttaaaagcaat gctcctcac tgcctggaa gctcctcac tgcctggaa gttaaaagcaat	VIIBAUMEIE WKGQWPGGQP FWKGQWPGGQP ICNVLVCGAL RRIAGAEIQM RPILDPWIYI ISRELKEISS DSSQGQDSES	accgagcggc tgtctggact tctccacaac
gcaggacaag ggctcggtga gaccggctga gaccggctga tacacgctgg qtgaccatcg agcaccttca gtcgagcgct ttggcgggcc acaccaacg ctcattctcg ctcattctcg cgcaggtgc acaccaacg cgcaggtgc acaccaacg cgcaggtgc acaccacca cgcagggagc acaccacca atccgaattg acagtgctca ctccagggagc ctcctgccag acattgcca acattccca acattgcca	SCENTIALY UNSPORTINSP UNSPORTIATY UNSPORTIATY ESSFLILATY LSDFRRRSF DLQAIRIASY SAMSGHSRSF LRTLRISETS	gccatggcac gatgacaaga ttggctttta
tccagactga cgaacgctgc cttgagcccc ggtgatggcc ggtgagcccg gtgagaccttc ggtgagtac cgccatgagt cgcgctgccc cagcgactgc cagcgactgc cagcgacttc cagcgacttc catcttact agtattcgc ttgcaggcc ttgcaggcc ttgcaggcc cttactgtca atctcagaaa atctcagaaa atctcagaaa atctcagaaa cggaatttg cagagaaa cggaatttg cagagaaa cggaatttg catgagaaa cggaatttg catgagaaa cctaaagaa atctcagaaa atctcagaaa caggaatttg cagagaatttg cagagaatttg cagagaatttg cagagaatttg cagagaatttg cagagaatttg cagagaaa atctcagaaa atctcagaaa atctcagaaa atctcagaaa atctcagaaa	MSTPGVASSA IAVTDLLGTL INHAYFYSHY HAAYSYMYAG HPAASPALPR SLEREVSKNP QHCSDSQRTS MGLAQEDTTS	ggcgcggggc ggcggcctgg acttgagtgg
	NP_000949.1	NM_000959
	Prostaglandi NP_000949 n E Receptor EP4	Prostaglandi NM_000959 n F2-alpha Receptor
	3927	3928
	296	297

agtttcaaac aaacagaatc acatatacac acttggggat tttccaataa tgtgtggggc taatttttag caaagaatat caatacccat aataggaaaa ccagaagact gtgtgatggc cttgctgcc tctacaacac tacgaaaggc tttctgagtc tgtagcctaa caggttttga atgggaggta tatctgtctt ctatttgcca cgctctgtag tctggcctat cagaattcat gcctgaccct tgcctacatt ttagcaattt ggcatattct ccatcqccat tacttttagc tagcagtatt tttgcagtat ttacatccaa ttctggggct ttttaagagt tggtaatcca ttacaatggc tttttgctct tcatcagctt ggctttccgt ggattcattt tctacttggc tttgtaagat tttgccaagc aaaagaattt gttgctgcta cagacaggtt gaattacagc ttctttacac ctccccaaat cctgctttat ggtgaagtaa acggaaaacc gcatcgtttc aatggagcca tcaaatgtcc cttctaggca tctacgaaaa gttttcatag acctggtgtt cttttttctt ggaattacac catttggaaa ccatttctgg gaaacaacac tatattcttc ggagtgcatg acagtaaatc gttaaatacc ttgtcagatt gtttttgcca attttgagct ttgagatcac tatttttga tcatgacacc caaataggac atgtcataga gcacaataaa atgataggtg agaacaaag aacagccttg gtctaatgcc ctacatgcca gttcattaaa taattcaacc aacctgccag gaagatacta tgggagtcac actgaaagca aatggttatt acatgcatgg ccaggtctgg gtgtttttc gtgtgtgatt tttgtgtcag agtgtgttc agactggcaa ataataatct ggaaggtagt attaaaaatg aatcttgtca gaagtccaag ctttgaccaa gtgcccactt tgcaatcaca ttgttggagc ggaaacctgt tccttgggta tcaatgctgt ttccttaaag gcttaatagg attcagtta tttcaactt aaagcactct tcacatttga tgggcaacta taggaaatct ccatctcatc aatattcat cttgtttgct ggcgtcgagg ttatcttcta cagatctcat gtttggcaat tttcaaacac aaatcttaga agcttgccag ccattaaaaa caagcaccta catgtagtt taactgtaca atctgttgag tgcatagtga tcagtaaaat ctcaattaac tctgcatatt cccattcttg gttgttggaa agcacattga caaaccgaag atctgcagct ttgagagcag taagaggga agatcaagag cttgtttgtg cagaaattag ctttgctttc tcagattctc tcacaaaacc tgttgtgcaa acagacaagg tctcctgtat atcattctct tgaaaattt tgagccatta tttctggtct gtggtgtgtg aagatagatt tgacagtggg gatttagaca atttctttgg aatggatccg ataaaattca gctctttctc tgagtgaatc taatgcagcc taaactaggc ctagaatggg ttcaaagact gaaaattctg attaactagg gctgcgcttc tgcatggtgt tgtattggag atgatgttaa categagaet ggtgtttcat agtcagcagc ataatgtgtg ataaatggaa acatggaatc aatctctata gagettagtt gagaaatcag attaagacat caggcttcat ataaacagga aataatgcca attgtgtagc tataacaacc aaggtcgatt atttttctc ataatgcaaa tgctttacct ctaccagtac tttttcttg ctaggtctat tataaqattt taggctgatt gtaatcttca gcatatcaga gtaatcactg tctgataaag aaagactggg ccgaatggca acatgtgaaa atttatgctt taattgagac tcaaattgtc cttccctgt gtctcctgca attttttca tctcatgaag tgtatatgct ttttggtatc cattgagcgg catccttgga agaagacatc cttagccctt taaatttaaa gctcctggcg caacattgga tgtccttaag acatatttgg accagttgca tagaacaaaa ctggaaaatt aatttgtcaa gacacaataa gagaacatct ctaaccctta tttgccctc gatggtttgt gcaatcctat tattattatq tcaaataatt agaaacaaag tctaccatgg tggcaaaagg aatataaaa acagacatca aaagcctgtg tattataaca tgtatttctg cagcggcctg

Homo sapiens	Homo	Homo sapiens
taagagtgtt atgctgggta gaagaactc agaattcttg ttgcaacatg gggttatcta taacccaaga LMKAYQRFRQ P FGICWVFSGL ILGHRDYKIQ RWATWNQILD	Profession agaggetgae A agaggetgae A aaccaataga cactactgaa a ceteactgaa a ceteactgaa aggtttgae aaacattgee tttgtttgee tttgtttgee ttggggtett aggttttgee tggttttgee tggttttgee acattgee aatgatte agecetetge acatgatte agecetetge acatgatte aggtecaace cagtaggatgaa aagtteaace cagtaggatgaagatgea aggteteace cagtaggatga	KGVTVETVFS P VIYMANLALA
	SLAVAALSES 9999caggtg 9949caggtg 90409gcgtg catccaaggt ctgcatctgt 4941ttgtggt agaagaagca tcatctggtt aagctctttg ggaagaagca tcatctggt tcatcaggcat tcatcaggcat tcatcagac cttggccat tgatcagaac tgatcataaaa ttattattgtttc gcattgataaa cttactctct ggaattgaaa cttactctct ggaattgaaa	KVDGTSHVTG LFRTKKKHPA
	niwelession getecogate oggagececa tgeagtgga tgeagtggea gatgagttt tacacaattg ttecogaacta ctectetetg attatgggg acatececa attetgegg acatecetet tatgtgetga tacttetet tatgtgetga aggaagaggg cctagtace tttgtetatt egaagtgtee tttgtetatt cgaagtgtee tttgtetatt cgaagtgtee agtecaget tttgtetatt cgaagtgtee tttgtetatt cgaagtgtee tttgtetatt cgaagtgtee tttgtetatt cgaagtgtee tttgtetatt cgaagtgtee tttgtetatt cgaagtgtee	RSSKGRSLIG PSNGMALWVF
	CCGVNVISA CGCGGCGGGG CGGGGGGGGG CTCTCTCC TATCGGGGG CCCGGGGGGG CCGGGCGGG CGGGGGGGGG CGGGGGG	SCSGTIQGTN VYTIVFVVGL
ttatttgctt gaacagagat atgaatattt gctccagat atgatgtcac aggctttaag gtatatgttt aaaaattaaa SPAAALLSNT SGLVITDFFG IERCIGVTKP EDIKOWEDRF	VLANDIALLAS tggggaggct tggggaggcttc tgggagagcct ttgaaacagt cggtcttcct tggccctgtg ccaatctggc acatctggc acatacatgc tctatggcaat ccttggcaat ccttcctcat tggacctgaga ccttcctcat tgtacctgaga atgaacagctg ccttcctcat tgtacctgaga atgaacagcg ccttcctcat tgtacctgaga ccttcctcat agagccaggg ttaacagctg cctccaaagaacgc cctccaaagaacgc cctccaaagaacgc cctccaaagaacgc cctccaaagaacgc cctccaaagaacgc	g Gaaillaasi Gklttvflpi
ttcagatggt gatgtcttgt caatgcttct tcattcagg ctgtattgcc gccatgtgca tgttatctga agtagacatc MSMNNSKQLV KSKASFLLLA CPLLIGSVWA ASRTWCFYNT RSHHLEMVIQ	FWVILLLKRA cggcccgcc gcgcccgcg gcgccatcc tcctctaaag ggagttacag aaactgacca agtaacggca atttacatgg attgcctatc attgcctatc attgcctatc attgcctatc attgcatct cagaggatct tctgcatgg gtcccag gtcccatgg cttctcaccc agggatcatcg attcctaccc agggatcatcg tctgccatgg gtcctaccc agggatcatcg tctgccatgg gtcctaccc agggatcatcg tctgccatgg gtcctacccc agggatcatcg	acataccacc MRSPSAAWLL VDEFSASVLT
NP_000950.1	NM_005242	NP_005233.2
Prostaglandi NP_000950 n F2-alpha Receptor	Proteinase-Activated Receptor 2	Proteinase- Activated
3928	4051	4051
298	0 6 7	300

	Homo sapiens	Homo sapiens
. VQRYWVIVNP . PEQLLVGDMF . TVLAMYLICF . FRDHAKNALL	ccattggta A ataacgtta a tggcctcctg cttggcaaag cttggcaaag caggttcccc a gatagttcccc a gatagttcta cacaggcaat cacaggcaat cacaggcact cacaggcacc cacaggcacc tggattctta cacaggcacc ttttaccatt ctaatgcttc cacaggtccc tattaccatt ctaatgcttcc a atatgcttc a actaggtctc a actaggtctc a actagagtctc a actagagtcag tggtagtctcagaggtctc	E FPFSALEGWT P P ANAVTLWMLF I VIFYGNWYCS I LKQEYYLVQP N AYDHRWLWYV
CSILEMTCLS LNITTCHDVL KRKRAIKLIV PEVYYFVSHD	accaaggett tacagattto ttgcagctgc ataaaaattaa ggtacctgac tagttggtgt tctgtaccac tgccctttaa gcacacacta tgccatttt atgcattct tcctggtgat tccttgtgat tccttgtgat tccttgtgat tccttgtgat tccttgtgat tccttgtgat tcaactacta tgggtagtct atgagtagtct atcactacaca tgggtagtct atgagtagtct atcactacaca tgggtagtct atcactacaca tgggtagtct atcactacaca tgggtagtct atcactacaca tgggtagtct atcactacaca tgggtagtct atcactacaca tgggtagtct atcactacaca tgggtagtct atcactacaca tgggtagtct atcactacaca tgggtagtct atcactacaca tgggtagtct atcactacaca tccattgaa ccagacacac tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tcattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tccattgaa tcattacat tcattgaa tcattgaa tcatacatacat tcatacatacat tcatacataca	RGAPPNSFEE YLLVEVVGVP FGEVLCRATT VFLYMLPFFI CYAAIIRTLN
LIGFEYGNMY VVKQTIFIPA SSAMDENSEK CLSTLNSCID	ctacagacag tccatgattt gccctcatct atggaaaatg gctcccccaa acgattactg ctggtgtttg gctaccatgg ctggtgtttg ggggtcctg ttatacat gccctgcc ttcatctcct gcagcctgcc ttcatctcc gcagccatca attcaccatg gctttgtgcc aaaaccagaa ggacagccat actatctcct actatctcg actatctg gctttgtgcc aaaaccaga ggacagccat gcatttgtg actatctg actatctg actatctg actatcacatg gctttgtg gctttgtg actatctg actatctg actatctg actatctg actatctg actatctg actatctg actatctg actatctg actatctg actatctg actatctg actatctg actatctg actatctg actatctg actatctg actatctcg actatcttg actatctg actatctg actatctg actatctg actatctg actatctg actatctcca accaccacag actatctccag actatctccag actatctccag actatctccag actatccag actatccag actatccag actatccag actatccag actatccag actatccag actatccag accag actatccag actatccag actatccag accag actatccag ac	AKPTLPIKTF SLSTKLIPAI AYHLNGNNWV LVTCGLVWAT FLIPFVLIIY
WIYGEALCNV LILLVTIPLY AYVLMIRMLR HVYALYIVAL RKSSSYSSS		SGMENDTNNL KNATMGYLTS LFCVTLPFKI YRGLPKHTYA YYFISLAFFG
KIAYHIHANN VAIGISLAIWL BELFPAFLTAS VYELIKSQGQS DOUSLTSKKHS		
DLLSVIWFPL DEHSRKKANI JUNYFLSLAIGV TPSNLLLVVH CRSVRTVKOM O		
	NM_004101	NP_004092.1
Receptor 2	Proteinase-Activated Receptor 3	Proteinase- Activated Receptor 3
	4052	4052
	301	302

	Ношо	sapiens																															•				Ношо	sapiens		
SCLDPFLYFL	tcctcccgga A	ccccaaqaq	gagtggctc	caddadacdc	Gotttagttg	500000000000000000000000000000000000000	ccggccaacg	cccacccgcc	cgtctcaccg	atcagcgccg	ccctctacg	ccgctgctgg	taccgggaga	ttcatcacca	gtggagaagc	ctggtctgct	catggggcct	ctcaccagcc	cgccacgccc	gaagggaaaa	gtccaggccg	tccccagcca	gatogoctag	ctctgcaggg	cagggagaga	ggctcccagc	tgaaggcagg	ggagtctcaa	cagacacaca	ggacgtcagc	gctgtaaccc	ccagtcctgg	cacctgcctc	atttcccttg	ggaccataaa		CGOETPLENM P	VLPTRLVYHF	RRPLYAHLAC	FPFITTVICY
LIALCLGSLN	ccctgtccct	atccaqaaaq	gaatggcctt	gcaatgtggc	++++	400000000000000000000000000000000000000	greegggace	gctggtcctg	aatcgcatgc	cctcacctgc	gctccgcagg	ggccatggcc	cctgcagctg	caccttcccg	gggcctgcgt	ggccatcttc	ctaccgcagc	cacctcctgc	tgagaagttc	ccccagcttc	მმმმმმიმი	atctgccctt	catttctcta	teggecacee	tcatctgtgg	tttcccgcta	agaaagaccc	ggacggggag	gtgcctctgc	ggttgccagc	gatetetect	cccaggcctc	ctgggctgtg	cgcctgagct	ttgtttgtac		_			ALVSLAVAFT
LIIHHANYYY NNTDGLYFIY	ccccgcagac	agtagactag	gccaaagcat	ccacdacada	かいし かいしゅう いっぱい	acccccays	gagaccacaa	tgtcgtgcgt	catttgggga	gcatctactt	agtccctcaa	tggtggctgt	cggtggtctg	cagtggcctt	gcctgcggca	ccatagtgct	acgtgctgca	caaaccgcat	tcttcgtggc	agggcccgcc	agctgtgagc	agcaagaggc	agatgcccac	aggggatcca	ctcaacgact	gaggcctttc	gaggctcagc		-	-	ctggattctg	ttgacaggct		ggcetetete	ttttttgtat					QLYREKASHH
LIIHHANYYY	tcacctgctg	aaacadaatt	tctdactcca	ttetecetaa	200400000000000000000000000000000000000	generate	כבבבבבב	gtggccgact	aaccactggc	atgtacgcca	cacccggtca	ctgtgggtgg	accaaccaca	gtgtccctgg	atcatccgca	cgcatgatcg	cgctccgtct	ctggccctgg	atcatgtatt	aaaaggctca	gccaagtcag	cagcagaccc	aaatctcagc	gaactgacaa	ctcctagaca	ctgaacaatg	gctcatcggc	ggacctggga	tactctgagt	caggccacac	cagcacagct	ccagagctct	gageteaget	cctccagaga	taacatgtcc	taaaaaaaa				VQTNHTVVCL
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KASLLILVIF MSKTRNHSTA	ccgacaccca	ccadcadcta	adatoctdaa			cactyyayaa	gcaataccct	tgttcctgat	tggtctacca	gattactatt	accgtttcct	cacacctggc	tgagcccaca	aggcctccca	cggtcacctg	gcctcaagac	tegtgeeeta	cctgcgccac	tcaacggggc	tgtgcaactt	ccaacgagag	agcgcagact	cctccccagc	tctcaaccca	gcttgtgatg	ggaggccgga	ctccttcccg	ctgcaaatga	tactcctttg	ctgcctgagt	actcacggcc	cacgcacaag	acaagcatgt	ccactgaccc	ctagtgtgca	tataactgta	MSKRSWWAGS	LFASFYLLDF	SGNHWPFGEI	AFLWVVVAVA
	NM 005291	ı																																			NP_005282.1	1		
	G Protein-	Coupled	Becentor	GPB 17	1																																G Protein-	Coupled	Receptor	GPR17
	4090																																				4090			
	303																																				304			

Rhodopsin

4254

305

	LLIIRSLRQG	LRVEKRLKTK	AVRMIAIVLA	I FLVCFVPYH VNRSVYVLHY	VNRSVYVLHY	RSHGASCATQ	
	RILALANRIT	SCLTSLNGAL	DPIMYFFVAE	KFRHALCNLL	CGKRLKGPPP	SFEGKTNESS	
	LSAKSEL						
NM_000539	agagtcatcc	agctggagcc	ctgagtggct	gageteagge	cttcgcagca	ttcttgggtg A	Ното
1	ggagcagcca	cgggtcagcc	acaagggcca	cagccatgaa	tggcacagaa	ggccctaact	sapiens
	tctacgtgcc	cttctccaat	gcgacgggtg	tggtacgcag	ccccttcgag	tacccacagt	
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	ttgagattgg	gcattcagat	gatggggttt	cacccaacct	tggggcaggt	ttttaaaaat	
	tagctaggca	tcaaggccag	accagggctg	ggggttgggc	tgtaggcagg	gacagtcaca	
	ggaatgcagg	atgcagtcat	cagacctgaa	aaaacaacac	tgggggaggg	ggacggtgaa	
	ggccaagttc	ccaatgaggg	tgagattggg		cacccctagt	gtggggccc	
	aggtcccgtg				acaggccttt	ctctcagcct	
	ctggaagcca	cctgctcttt		cctgggtccc	agcatctaga	gcatggagcc	
	tctagaagcc	atgctcaccc	gcccacattt	aattaacagc	tgagtccctg	atgtcatcct	

,	Homo sapiens	Homo sapiens	Homo sapiens
	GFPINFLTLY P NLEGFFATLG PLAGWSRYIP KEAAAQQQES PAFFAKSAAI	agtgccctgc A gtggaagctc atcagacggct atcagacggct tggaactcag ctgccccttc gactactcca ttcgccatgc aagagtggcc gaaactgcaga tatgccctatg aaactgcaaga tatgccctagg aggccctagg agggccccaga tatgccctagg agggccc gcaagaaag gttttgttac cctaataata ttagcccccttt	CHLLVLSLAL P WGRYHHYCTR
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aaattccact tgccagacaa caaaaagctg ttctccatat caaattgggc ctttcacact tgggatggct ggtggaggag	LAEPWQFSML FTSTLYTSLH NHAIMGVAFT HFTIPMIIIF VAFYIFTHQG DEASATVSKT	gagtgaggat ctgttggggat tcttctcttt tggctcttgc cagegtggg gaccgtag cttctgcctt tggggacatg tcaccatga tcaccatga acgacactca acgacactca agtgcccag attcagaaca attcagaaca attcagaaca attcagacact attcagacaccc attgacccc attgaccccc attgaccccc attgaccccc attgacccccc attgacccccc attgacccccc attgacccccc attgacccccc attgaccccccc attgaccccccc attgacccccccccc	LSLNTLTIFS HGFQGFVTAL
	RSPFEYPQYY VADLFMVLGG KPMSNFRFGE ESFVIYMFVV FLICWVPYAS	cagtgaggga accctgacca gtgctgagct tccagccttc ggctttgtga caccactact gtgtggctgt tatgagccac agcttcctct tcctacagtca gtcatcgcag aaaatggtgc ggaatctggc ggaatctggc ggacacagga tggccaagg	MVLLVEALSG WPYGSDGCQA
	VPFSNATGVV PLNYILLNLA LAIERYVVVC YYTLKPEVNN TRMVIIMVIA KQFRNCMLTT	egggccactgg cggggagctc cagcctcaat ccacctactg tgcagccaca cggcttccag ggggcgttat ggtgctctc cacgatcacc cacgatcact tcattagc cctcattgc ggtgagctgg ggtgagctgg ggtgagctgg ggtgagctgg ggtgagctgg ggtcctagg ccttttaaaa tgcctagtgg ccattaagtt ttttaaaa tgcctagtgg ccattaagt ttgcctattat tgtctattat	FGELEVLAVG VAATSSLLRR
•	MNGTEGPNFY VTVQHKKLRT GEIALWSLVV EGLQCSCGID ATTQKAEKEV YNPVIYIMMN	agagacaget ccaetggett tetecggtet ggactecetg gecaggetea ccategetgg eggttgggg agggggacag ccetetete tgggttgggg agggggacag ccatectgta tggtgccgg gcaatgagat accaatgagat accaatgagat accaatgagat accaatgagat accaatgagat accaatgagat accaatgagat accaatgagat accaatgagat accaatgagat accaatgagat accaatga accaata accaatga accaata acctaataata acctaata acctaata acctaata acctaata acctaata acctaata acctaataata acctaata	MAETSALPTG ADSGI SLNAL
	NP_000530.1	NM_002921	NP_002912.1
	Rhodopsin	Retinal G Protein- Coupled Receptor RPE	Retinal G Protein-
	4254	4284	4284
	306	307	308

Receptor RPE SQLAMNARN'S INJEWALALIGM GHYPETGAT CTCHDS/SROD NETSELETH Receptor RPE STRIADMY LITTS/SLME OKIGKSCHIO WFTLPART LIGHGEVALL YLYANIANY SISKLOAPP ACADAGGG GGGGGGCCCGGGGGGGGGGGGGGGGGGGGG		Homo	Homo sapiens
Receptor RPE SPENEARLE ITITSYSIME OKLGKSGHLO SPENEARLE ITITSYSIME OKLGKSGHLO SPENEARLE ITITSYSIME OKLGKSGHLO SPENEARLE ITITSYSIME OKLGKSGHLO SPECETION Receptor Receptor Geacggacac cacagactcg agaccatactg actggaqccc ttccccgact attgaactg actggaqccc acaggatgga cacactact ggttgtgagg gaatgtgga cacactact ggttgtgagg gaatgtggac actggaaccc ggttgtgagg gaatgtggac actgaactgac actggaaccc ggttgtgagg gaatgtggac actgaactga actgaactgac actggaaccc ggttgtgagg gaatgcccqa actgaactgac actgaactgac actgaactgac actgaactga	CCTLDYSKGD LLGWGPYAIL SPQKREKDRT	agetecegag egggeagagg egggeaceat gegtececae tegectgege egegeacteg geacagaaga geaagaceag geacgaaga geaagaceag geacgaaatet ggeetgtgge gegtaatet ggeetgtgge acetgeacet tgeetgtgge acatgeacet gteegtgge teatggtget gtteeagtae teatggtget gtteeagtae teatggtget gtteeagtae tetacettea cacactecte ttgtggeatt eggatggggt actteetgga actteetgga actteeaggg agatgttggg tegettetee etcagatggg actteeagga actteeaggg actggtgggg catteeaggg actggtgggg aggtteagaa aaggttggg agatteagaa aaggttggg actteagaa aaggttggg actteagaa aaggttggg actteagaa aaggttggg actteagaa aaggttggg actteagaa aaggttggg acctteagaa aaggttggg accttaagaa cetteagaa aaggttggg actteagaa cetteagaa aaggttggg accttaagaa aaggttggga accttaagaa cetteagaa aaggttggga cetteagaa aaggttggga accttaagaa aaggttggga accttaagaa aaggttggga accttaagaa aaggttggga cetteagaa aaggttggga accttaagaa aaggttggaa aaggtggaaaat	EQDQCLQELS REQTGDLGTE GSLFRNCTQD GWSETFPRPN LGILCAFRL HCTRNYIHMH LFQYCIMANY SWLLVEGLYL EDVGCWDINA NASIWWIIRG ARSTLLLIPL FGIHYIVFAF KKWQQWHLRE FPLHPVASFS
Receptor RPE SISPKLOMVE SISPKLOMVE SISPKLOMVE Secretin NM_002980 acgaggccgg cqqqqqqqqqqqqqqqqqqqqqqqqqqq	FWAALPLLGW OKLGKSGHLQ NAINYALGNE	gggaccctgcg gggcgccctc gctactactg agagcagaca caacataagc attcctccgg ctggtcagaag ctactcctg ctggctgctgc ctggctgctgc ctggctgctgc ctggctgctgc ctggctgctgc ctggctgctgc ctggctgctgc ctggctgctgc ctggctgctgc ctggcttccatc cttttcata agaaagtact cgcatccatc ccttttcata agacactcac ccttttcata agacactcac ccttttcata agacactcac ccttttcata agacactcac ccttttcata agacactcac ccttttgaactc ccagggcac ccagggcac ccagggcac ccagggcac ccagggcac ccagggcac ccagggcac ccagggcac ccagggcac ccagggcac ccagggcac ccagggcac ccagggcac ccagggcac ccaggggaag gacaccctgt ggaagaagaag ttc	AAHSTGALPR PGRMVEVECP KLKVMYTVGY SSDDVTXCDP FGWGSPAIFV MRKLRTQETR GLVVAVLYCF
Secretin NM_002980 Receptor Receptor Receptor Receptor Receptor Receptor Receptor			MRPHLSPPLQ QPVPGCEGMW LACGVNVNDS LEVSFILRAL HTLLAISFES PVILSILINF SPEDAMEIQL NSTKASHLEQ
Secretin Receptor Receptor Secretin Receptor	38X	NM_002980	•
4321		Secretin Receptor	Secretin Receptor
310		4321	

Homo sapiens	Homo sapiens	Homo
cccgggcagc A catggaggag cgccatcctg tatggtcatc cctaaatctg cacgttgttg cgcggtgag aacctgggc aacctgggc aaccgggcc acgctatctg ggctatctgc cgccaaccc cgccaaccc cctatgcctc cctatgcctc	LSEGGSALL P VPFLVTSTLL PTVAKVVNLG GFLLPVGALC QLVNVFAEQD VDYYATALKS	tccatttgac A ctatgacctg gttgtgtggcccaacatt tttcttggct ggtcatgact catcgaccga gacggccaag catgatatat gccaggtgaa cctggtaccc cttggtaccc cttggtaccc cttggtaccc cttggtaccc ttcttccgtc
ctagccccag ctgcggacgg gccagggcag gtgggaactc acatctacat tcagcgtgga accgctacgt cctaacgtgg tctactggagt tctacggcg tgccgctca tgccgctca tgccgctca tgccgttgg ccctcaagg tgccgttgg tgccgttgg tgatggtggt acgtattgc ccaacagct tccaacagct tccaacagcat acgccaccgc	PGRNASQNGT AIADELLMLS HPIKAARYRR VGFVLYTFLM VICWMPFYVV SWMDNAAEEP	ggctatccat cagagccgta gcatcattgg tgaagaccat tgggtctgcc tttgccgggt cagtcatgag ggagacccg tcttgccat ccatcactg ttctggggtt aggtgaagtc tcacccgaatt
tcttctttc ggggccgcg ttgagcgagg gtggggctgt acggctcgtc gtgcctcgtg ctcaggtgg ccatcgtgg ccatcgtgg ctcatgcag gtcttgcg ggcttgg ttaatggtg ttaatggtga aagcgctatg aagcgctatt gttgactatt	ctctga GAGAADGMEE TATNIYILNL LSVDRYVAVV LMPEPAQRWL LMVMMVVWVF LMVMMVVWVF	agccacacat tcaaaccaga tttgtggtct tatgccaaga ctcttcatgc ggcaaggcca ttctgcctga gccaagtgga gccaagtgga agcagctgca agcagctgca agcagctgca agcagctgca agcagctgca cccttcaca
ctcctctcct caggggcccc gaacgggacc gaagatgaag caagatgaag catgctcagc fctgactgtg tttgcacatg ttgcaacatg atttctcatg ttgctaagatg tgctaagatg	gatcacgacg CGEGGGSRGP YVILRYAKMK MFTSIYCLTV NSDGTVACUM QRKRSERKIT ILYGFLSDNF NGTCTSRITT	actcaatga aaccaacac attcatctat catcctccgc cgcagatgag ctggcccttt caccagcatc catcaagtcg gggagtctct gtgggggaga gtcatcatc ctacctgttc gaagaagtct ctacctgttc
atggcaccgc atgcgtccca tctactccgt tgcgctatgc atgagetgct ccttcggtgc gcatctactg tatcgctgc tatcgctgc tgttgtacac tgctcatcat gctcgagec tgctcatcat gctcgagec ggatgcctt tggtcatcat gcttgtacac tgctcatcat gctcgagec ggatgcctt ggatccage ggatgcctt tggtcagec ggatgcage ggatgcage ggatgcage ggatgcage ggatgcage ggatgcage ggatgcage ggatgcage tgcttctctcc acaacgccgc	gcacgtcccg SSSPSPSPGS VGLCGNSWVI RLVLSVDAVN PIVVFSRTAA RWVALKAGWQ LGYANSCANP LGYANSCANP	cggatgagcc ctgtggtgtgc cagtcctcac tcatttatgt acctggccat ctctggtcca tcaatcagtt tggtccaccc tggctgtgtg ggagcaacca ggtacaccag tctgtctttg cctctaagag tcttctttg
atgttcccca tgcggcgaag ccagggcgaa atctctttca tacgtgatcc gccattgctg cgccattgctg cgccactggc atgttcacca atacccatca gtgtggtgc etgtggttcg ctgtgcttcg ctgtgcttcg ctgtgcttcg agcgccacgg atcctctatg agctggatgg cgtgctcacg cgcgccacgg cagcgccacgg atcctctatg agctggatgg	aatggcacct MFPNGTASSP ISFIYSVVCL RHWPFGALLC VWVLSLLVIL LCYVLIIAKM DATVSQLSVI RAYSVEDFOP	atggacatg ctcaatggt acacacttg tacatcctca atgcaggtgg gtggatggca tacctggctg atgatcacca gctgggctc tctggggct ctcaccatca
NM_001049	NP_001040.1	NM_001050
Somatostatin NM_001049 Receptor Type 1	Somatostatin NP_001040 Receptor Type 1	Somatostatin NM_00105( Receptor Type 2
4480	4480	4481
311	312	313

Homo sapiens	Homo sapiens	Homo sapiens
ggtggtcctc caacttcaag tggggagcgg gaggaccctc FVVCIIGLCG P GKAICRVVMT LIVILPIMIY IIIKVKSSGI KGMFDFVVVL	tgcetceteg A ggcagggetg agteaccaac gccettcetg ectggteatg gagcgtggac tccggtggac tccggtggcc egtggtggtc gccgctgctg gccgctgctg gcgctgctg gcgctgctg gcgctgctg gcgctgctg catggtgtg catggtgtg catcgtcaac	ccaggagccc tggggaggag cacgcagcct gcagctccta cctgtag YLVVCVVGLL P FGSLMCRLVM SAVVVLPVVV VKVRSAGRRV FFGLYFLVVA EDEEEEDGEE
ttgactttgt tcttgtctga gcacagatga cggagaccca TSNAVLTFIY MQVALVHWPF MITWAVWGVS LTIICLCYLF SMAISPTPAL SDSKQDKSRL		gtgtgcgcag aggaggagga tcagccagat gcaaggagca gcatcagcta AQNALSYWP RTVSAAVWVA VVCELPEEPA TVGPPEKTEE
aaagcatgt ctatatgcct aaggtgagcg aatgagacca SNQTEPYDL LFMLGLPFLA AKWRRPTAK YTFILGFLVP PFYIFNVSSV KVSGTDDGER		ccctcccgcc gaggatgagg aacggccggg agagtggcca agcacgatgc VSAGPSPAGL ELFMIGLPFL SARWRTAPVA AALGFFGPLL MPFYVLNIVN PSRRVRSQEP RVASKEQQLL
cccagccctt caaccctatc ctgcttggtc atcccggctg cagtatctga INGSVVSTNT YILNLAIADE YLAVVHPIKS SGAWYTGFII VVAVFIFCWL KSFQNVLCLV		cctgctgcgg gactgaggag gaaggagtg gccgcccagc ggagaagtcc AWFLAVVHPTR RYLAVVHPTR AWRAGFIIYT AVWALFVLCW GTSGQERPPS
tcagcccac acagctgtgc agaatgtcct agcaggacaa acctccaac STTWESIPFD FCLTVMSIDR SSCTINWPGE EKKVTRWYSI	ttcatccatc cagatgccac gcgttctgat tggtcatcta tcaacctggc acgccctgtc gcatcaacca ccgtggtaca gcgcggctgt tgccccgcgg ccggcttcat tctgctacct ccgccaccg cgctctcat ccactccacca cactcccaca	tccgcagggt ccccggagaa ggggcaggg ggcaggagcg ctccactgg TTSEPENAS RHTASPSVTN IFCLTVMSVD CHWQWPEPAA SERRVTRMVV ILYGFLSYRF
tccatggcca acctatgcta aagagcttcc agtgacagta ctcaatggag MDMADEPLNG NTLVIYVILR VDGINQFTSI AGLRSNQWGR RVGSSKRKKS TYANSCANPI LNGDLQTSI	atggacatgo gcctggccc gcctcagtg ggtaactcgc gtctacatco gccgcccaga gcggtggatg cgctacctgg cgcacggtca ttctcgggag gcctgccgtca ttctcgggag gcctgccgtca ttctcgggag gcctgccacct cggcaccct	aagcagggct actgtggggc agcagggagg ggcaccagcg cccaagagg MDMLHPSSVS GNSIVIXVVL AVDGINQFTS FYSVPRGMST WAPSCQRRRR LPYANSCANP
NP_001041.1	NM_001051	NP_001042.1
Somatostatin NP_001041 Receptor Type 2	Somatostatin NM_001051 Receptor Type 3	Somatostatin NP_001042 Receptor Type 3
4481	4482	44 48 \$
314	315	316

Homo sapiens	Homo sapiens sapiens
ugge gggectggece A tggt gtgectgggg ceat gtgectggtg ceat gtgaagaeg cggt gctgtgecgg gtct caccgtgccc ccta ccggcggcgcc ccta ccggcggcgcc tggt cactctccc tggc actctccc tggc agtgcgcgc aaat caccaggctg acct tatcctcagc aca cttccgccg acgt ggtgcagctg acgt agtgcgcgagctg acgt aggtgctgag	MVAI QCIYALVCLV PAALR HWPFGSVLCR NLGV WLASLLVTLP IGLC YLLIVGKMRA SLDA TVNHVSLILS YATA LKSKGGAGCM cccc gggggctgcc cagg ggcccgggcg gcgg gaacacgctg acat ctacattctc tggc cacgcagaac tgac gctggacgc acct ctacattctc tggc cacgcagaac tgac gctggacgc tgtc cacgcagac tgac gctggacgc tgtc cacgcagac tgtc gcggacgtc tgtt cgcggacgtc
paag ggctggggac ttct acgcgctggt ttc acgcgctggt acg agctcttcat cct tcggctccgt gcg tcttctgtct gcg cggcgaccta gcat cctgttggt ggc aggcgtggc gtct acacttcct ttca tcgtgggcaa ccgg agaagaaat ttgc cttctacgt tacc acgtgtccct ttc tctcacgt acc acgtgtccct ttc tctcacgt	AGPG DARAAGMVAI ILSV PEVASSAALR IRRP SVAKLINLGV LLGF LLPVLAIGLC GACE GGGC GGGC GGGC GGGC GGGC GGGC GGG
agg ggcgaggaag atc cagtgcatct ttc cagtgcatct ttc gtgatccttc gcc gtagccgacg cgc actggccct atg ttcaccagcg cac cctctgcgcg gtg tggctggcat gct cgcggcggcc gtc ttcgtggtct tgc tacctgctca cgc aggcgctcgg ctc tgctggatgc ttgc tacctgctca cgc acgtcaacc ctc tatggcttcc gcc acgtcaacc ctc tatggcttcc tgc tacaggatgc gcc acgtcaacc ctc tatggcttcc tgc tacaggatgc	APA EAEEAVAGPG NIA VADELEMISV NVH PLRAATYRRP SAV FVVYTFILGF FVL CWMPFYVVQL IRC CLLEGAGGAE FF CCC agctggaacg gtg gggccggcg gtg gggccggcg gtg tgtgcggccg gtg tgtgcggccg gtg tgtgcggccg gtg tgtgcggccg aag tgaagaccg ccc gtc ctgtgccgcc cctg acagtcatga ccgg acagtcatga atg tcgcgcccgc cctg acagtcatga ccgg acagtcatga ccgg acagtcatga ccg acagtcatga
	cac cttctga MWP SAANASSAPA TVL SVDRYVAVVH CNL QWPHPAWSAV TRE VLMVVVFVL ERR SFQRVLCLRC AGC CCCCCCCC CCCCCCCCCCCCCCCCCCCCCCCCC
	ppG GEEGLGTAWP VIF VILNYARWHT LINM FTSVFCLTVL LNM FTSVFCLTVL LOR REGGAVACNL DOR RESEKKITRL FIL YGFLSDNFRR CCG GGTCCCCC GCG GTGCCCCCC GCG GTGCCCCC CCG TGGCCCCC CCC TGGCCCCC CCC TGGCCCCC CCC TGGCCCCCC CCC TGGCCCCCC CCC TGGCCCCCC GCC TGGCCCCCCC GCC TGGCCCCCCC AGC CGCTGGGCCCCC AGC GGGCCCCCCCCCCCCCCCCCCCCCCCC
	S.1 MSAPSTLPPG GLVGNALVIF AVLSVDGINM IAIFADTRPA VALRAGWQR YANSCANPIL CPPLKCQQEA 3 atggaggcc tctggaggcg gtcatctacg gtcatctacg aacctggcag gccgcgtcct gtcaaccagt gtcaaccagt gtcaaccagt gtcaaccagt tcatcatct tcatcatct tactgaggcg tcatcacc gccgcgcct tactgaggcg tcatcaccagt
Somatostatin NM_001052 Receptor Type 4	Somatostatin NP_001043.  Receptor  Type 4  Somatostatin NM_001053  Receptor  Type 5
Somatostati Receptor Type 4	Somatostati Receptor Type 4 Somatostati Receptor Type 5
4483	4483
317	318

320

ccatgacaga gagitticago itetecteca atgigeite ctaggicada caggitgage ecceaetge tttgacetge etecetteat geatggaaat tggaaccate agaaacaece teacaetggg actigeaaaa agggiteagta aaaacattee atecttgagt caaaaaaatet caattettee etatetttge etgtgtgaet caaaccaaat cactgaactt tgetgageet gtaaaataaa agetttteet caagagecea atgeatteea atgeatteea ttettggaag tgaetttgge

tgggttaggg accetcatg aggteggace

gactccaaga gggcctttgg tcccttcatc

	<b>Homo</b> sapiens	Homo sapiens		
	ω	4		
ctgtgccaac ggttctgtgc agacaggatc gcttatgcag	CAAGLGGNTL LCRLVMTLDG LCRLVFLVFADV SIPLLVFADV AGVRVGCVRR ILSYANGCAN HRABAANGTMO			garcccqqq caaaatgatq cttcctcctq cctggccatc cctcaatgac cgccggcgac tgtgtacaaa ggagccagag
acgccaacag gcttccagaa agccgcgtcc cagccaacgg	VLVPVLYLLV AASFWPEGPV AAAWVLSLCM YLLIVVKVRA ASAGLYFFVV ROOCFATPPV			gggccagtga gcaagtggt tccacatctt agcaggtcta tctactgctg ccttcatcag cccagggcag cccagggcag
atcctctcct ttccgccaga gacgccacgg caccgcgccc	GPAPSAGARA LGLPFLATON RRPRVAKLAS FAPLLVICLC NLAVALPOED			atcacactar tctgccaage tggctgccct aagtttatcc aacccatca cggtgctgcc tatctccaga gtggtggggg
cttcgtggtc ctctgacaac caaggacgct gccgcccgcg	SGGGDNRTLV NLAVADVLYM VVHPLSSARW FIIYTAVLGF WLPFFTVNIV			cgtagtggga cgagcaagtc cgccatctgc ctacctgaag caccatgtac gcatgccttc atccaccogg
gcctctactt acggcttcct gctctggtgc aggaggccac	SWASSPGAA MKTVTNIYIL TWASVDRYLA PEPVGLWGAV LVVVLVFAGC	caccgcgggc ttcaaaaaga tgagccccag gctttacgcc	tgtggatcat tgtggatcat tggacetcac ccgctgtctt tcatacatc tctgggtcct tgcccagcag aagtgtacca	argeatacac accgctacca tgtgcacctt acccagatct ccatgagctc tgggattcaa tggaaatgaa tggagaccac
gcctccgccg cccgtcctct ctccgcaagg cggcagcagc		TSKL aattcagagc cagttcagct agaaggaccc cagatagtag ctctccccaa	graduation organization acctatgoty tacatgoto tacatgoto atctgoto acagagaca atttatgaga	grgartgger gactcctctg attgtcgtgg ccctacatca atgtggctgg aggttccgtc tatgaggggc gtcagccgcc
	NP_001044.1	NM_001058		
	Somatostatin NP_001044. Receptor Type 5	Tachykinin Receptor 1		
	4484	4552		

	Ното	sapiens						Ното	sapiens																														
	D.							K																															
		FPIAAVEASI	TETMPSRVVC	DSSDRYHEQV	MWLAMSSTMY	VSRLETTIST			cttcctcgct	cagacacagc	tctgcctgcc	agcagcccga	ენნენნენეე	cgcacccggg	tttcttctca	gaaagtgggt	caacttcctg	ctctttgtcc	gccatcgttg	cacctggcca	tttccggca	tactgtaaca	gctgtggtgt	tgtctggcca	accatccagg	ctcgaaggct	ctgatcattt	gccaaccgca	atcatttgct	acttccacca	agctcgtgca	tacagtatct	ttgatggcaa	ctgttaactt	aacctgagga	atgtacgact	ccagaaagat	gtaataaatg	tatatgtaga
	VIVVTSVVGN	GLFYCKFHNF	LAFPQGYYST	ITLWASEIPG	KFIQQVYLAI	YLQTQGSVYK	FSSNVLS	gctgagggac	ccggaggccc	ctaaccgccc	cacctgcgc	ggtgaagcgg	gacaatgggg	gttgtctgcc	tccccggtca	ggagaaaaat		ctggctgaca	aaacatcatg			tgcagcattt	ccggtttctg	ttccttcact	caaggagcaa	tgaaaccctg	ttttgtgccg	ttccgcagtt	ctgcatcttc	cctttctcac	cagcagcata	gaggtacgtc	cagtgggcag		aaaagtgaat	aaaacaacag		caatgctaca	tacatgtgtg
	QIVLWAAAYT	TYAVHNEWYY	ICVIWVLALL	VIGYAYTVVG	PYINPDLYLK	YEGLEMKSTR	DSKTMTESFS	gcgagcggcg	tcactgcacg	ccccgccccg	tacccgtggg	caggagagag	cagagecegg	gagacadat	ccaccttaga	gggaggatga	aaagcagtcc	tgaccagctc	gcctcccact	cggcggtggt		gcttcgtcac	taagcattga	tgggaagggc	ctctcgtcct	atgtgctcaa	ctgtcttctt	-	ctgctgtttt	attactcatt	gtgtctgtgt	ctgagtgcca	gttataacag		aaaagtttat				tatacatact
aggatg	EPNQFVQPAW	MAAENTVVNF	RLSATATKVV	TVLIYFLPLL	WLPFHIFFLL	RCCPFISAGD	DLTSNCSSRS	agagggctt	gcagagactc	cccagtcccg	accetgatet	ccgcagaagt	cagcgccgcg			gaaccattt		tccggatatt			tctgtgctcc		atgacagtca	tggcgtactc	ggggtagtgc		gccttctctg		ttcctgtcag	ctgattgcgc	tacctcctct	tacgcttcct			ggttaaaaag	actttattga		ttattccaag	ctaggtgaca
tgctcatttc	LSPNISTNTS	LVNLAFAEAS	YMAIIHPLOP	IYEKVYHICV	IVVVCTFAIC	RFRLGFKHAF	DGPKATPSSL	gcacagagcc	cggctccagc	gaccgcgcgc	ggtcgcttgg	gctccccgac	cctcccggag	ggccgcctgc	agaatcaaaa	tgataaatat	cagattagtc	agaagatgcc	caccggagtg	gaaaatgaag	gctgtttgtg			gtecetetee	ggccatcgca	caacatcact	ctacttctca	ttatgtgtct	ccgggctttg	aaacgtcctc			agaaagttcc		actgctggga		ctttttatgg	gatgacggtg	ctggatatag
tgcatgcgag	MDNVLPVDSD	KRMRTVTNYF	YSMTAVAFDR	MIEWPEHPNK	SAKRKVVKMM	NPIIYCCLND	WGAHEEEPE	3868888888	gggcgccgag	သင်သင်သည်သ	gctcgccgag	gcgaagaccg	ggcggggcag	tgctgctggt	cccgcaggcc	ggaaccccaa	taactgaata	cattcatctc	catctgtgta	tgttcatcct	cggcagatgt	gtgattggca	tgtacgcctc	atcccatgca	tctgggcttt	tgcccgggct	actatgccta	ccacggtctg	gcaagaagtc	teggacceae	cagaggetge	tegacecet	tatgctgcaa	gtaaaatgga	aggaaaaggg	ttctattagt	tgcatacctg	aacaggacga	aatgtcactt
	NP 001049.1	I						NM_001992	ı														•																
	Tachykinin	Receptor 1						Thrombin	Receptor	•																													
	4552							4687																															
	322							323																															

Homo	Homo sapiens
ρι	<b>«</b>
aaaacactct tatgcaaagt gagagactcc tagtgttttc aaaactgagc gagctgcatg gtcagacaca actacatttg gcaaagcaga aaaaacaacg agtagttgtt ccaataggtg agtagttgtt ccatacattc tacaaaagtc aatgctgct ctataaattc ttagtcccagc ttagtcccagc ttagtcccagc ttagtcccagc ttagtcccagc ttagtcccagc tgtagtgagc tgtagt	CSSNINNSIY aaacacagct ttgtactcat tgagaaccaa atctcatggt
	GQLMASKMDT gaactgaacc accatcttac ctggttgtca gcagtagctg tacggttcct
	SSDPSSYNSS gacagtcagt ccaggtggtc catggtagtc ggtgagcctg
	YVYSILCCKE tggaaaacga ccttagaata taggcaacat actgctacct ccaacataac
	rrrassecon ccactgaaga gcagtggtgg ctgggcattg accccacaa gcaggcetcc
	SISSCIDELI KKLLT tagctcaag , tcagccacga tatttgtggc gcacatgagg
	NM_003301
Thrombin Receptor	Thyrotropin Releasing Hormone Receptor
4687	4734
324	325

	Homo sapiens	Homo sapiens
tg ggaattaatg catcetettg tc tgtcacceca tcaaagceca tc tttgtctggg etttcacatc at attagcacct acaaagatgc ac tactcaccta tttacctaat ct accgtcetct atggattcat ct aaagaaaact ctaagacatg ta aatacctcta atagattct tg ctggcagtgg ttgtaattct tt tgcatttatc tcaacagtgc tc cgtgcagcct tcagaaagct ac tacagtgtgg ccctaaatta cc tacagtgtgg ccctaaatta cc tgcttggctt ctgagaaatc at gacaaagaaa ttgagaaatc at gacaaagaaa ttgagaaatc cc tgcttggctt ctgagaaatc cc tgcttggctt ctgagaaatc at gacaaagaaa ttgagaaatc	GI VGNIMVVLVV MRTKHMRTPT P. LC ITYLQYLGIN ASSCSITAFT ILM FFLLDLNIST YKDAIVISCG JFL NPIPSDPKEN SKTWKNDSTH JMM PYRTLVVVNS FLSSPFQENW QK PTEKPANYSV ALNYSVIKES	rac agccaggacc ccaggcagca A tige tetgccgggc cgcggcggtg cgcacagccg ggacgccgag cg gcggcggtg gcggcggtg acgcagcgccgg gctgggttt tatctgaata ttgatatagt gtttgcaaca ta ctgaagatgg tattaaaaga ca tatttgtcat gattcctact ca tatttgtcat gattcctact ct ttttgaattt agcactggct tt acacagctat ggaataccgc ca acacagctat ggaataccgc ca acacagctat tattcaccaca ag tcacctgcat tattcaccaca tag tcacctgcat tattcaccacaca ag tcacctgcat tattcaccaca tag tcacctgcat tattcactgg tat acctggctat tattcattgg tatcacttgag cacaaaatcaac ccttccgata
ttacttacct ttgagaggta gagccaaaaa tcttcttgct acaagatctc ttgtgccaat accattcc agaacacaaa ggaagcaggt cctacaggac ttttgctctt atctcatgtc aagtgtcttt tgaattagaa acaaaacaga	·	caatgattcc accggcgcgc accagcgcag tgacaaattg aaagtcggca aatgattctc agctggaagg ggtgggaata gactgtggcc tttgccacta atgtaagatt gtgtctcagc tttgccacta tttgccacta
ttcaataaca gcctttacca gtttctctgc acattttcca tctttactgt atgctctggt tattgtgata tcctgtggct ggactttggt gtcttttatg agctagaatc ctttcttat gaaaaatgat tcaacccatc caacagcaca gtatcttcaa gtttgccctt ttatggatgc tcctttccaa gaaaattggt catcaacccg gtgattaca ctgcaactgc aagcagaagc cagcgtcatc aaggagtcag cacttaccag tctgccaa gtgcagtcat ccaccaa gtgcagtcat ccaccaa gtgcagtcat ccaccaa gtgcagtcat ccaccaa gtgcagtcat ccaccaa gtgcagtcat ccaccaa gtgcagtcat ccacaaaagg		and the second s
	n NP_003292.1	n NM_000685
	4 Thyrotropin Releasing Hormone Receptor	4 Angiotensin II Type 1 Receptor
	326 4734	. 327 4944

Homo sapiens	Homo sapiens
	rsbnvsssin agcattctgc ataactgctt cgggcttgtg agataaggat ggtcaatatt catatacatc ggcaacctat tggttctttt tggtaaggtac
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Angiotensin II Type 1 Receptor	Angiotensin II Type 2 Receptor
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O D D O U O U U O D O U D D O O O D D O E E E D, E K O O O K O K O K O, K K H H H H Z	NYCWLSLEGG VVLPLLALTW DRQEEGNGDS	FFLSSFCWVL NVCWISTEGS	ATTACETT.	LGPWSWRGCR	LORNTTVLNS	ATDISFPMKG	AEENRDKWEE	GVSEVIQTLV	AVRCPRNATG	GSQRRERVCS	ASCSQGRQQR	CSSTCGRGFR	SPWSVCSSTC	GVLEEGRQCN	AGGPENCLTS	PSRAACQMLC	DEVLRLCDPS	FPANASRCSW	MRGQAAAPGP	aaacccaaa	gaagaagcag	gtggagggca	ccctcgggaa	ctgcggagga	ctgtggaccg	gaaggtgcct	accagagcca	cccgcacccc	gctgctccgc	ctccagaccg	agcgtggagt	acdcccacdt	ccggaaaagc	aaccggaagc	ctggactttg	gagaatgtcg	ggggatcccg	ccacctcccc

Brain-Specific Angiogenesis Inhibitor 1

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Brain-Specific Anglogenesis Inhibitor 2

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PEEEPKVKTQ

FTTEMRYGEE

DLHSGSSNDL

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		ggttttgctc	cagattacta	tgattgggga	caacaaacta	acagcttcct	ggcacaagca		
		221124++27			4466444				

Homo sapiens	Ношо	saptens	Homo sapiens
gagcettget attteagtgg gtataattta aactttttaa agaaaateg tactttataa aagatgtatt ttgtataaact taaataataa tgetaaagta tactagggtt tttttteet gagaatgtat etgeaateat gttgtagttt geacagaett ttatgcataa tecaettaa aaatatagaa tatatggtet aatagtttt taaagetttt ggactaaagt attecacaaa tectaacett ttaggteact gatggteact cegattetga gtgecacatt ggtagaetee taaaaatacag ttgacaactt agecaattge aactecagtg ttgataaatta aaatgaaatg gtaaaageage etettaagtg ttgecaaaag acttttttttt aaggtteagg eegtaggtte etcaaaggaat etettaagtg ttgecaaaag acttgttett taaaaaatgta gggegetaat gtatacacat taatgataaag ttgataaacat taaaaaatgta getgacttat eetattaaac eteeteteget atgtteac	IMNLYFTQVI FKAKSKYSPE ILKYRLPLYL ASLFISLVFL VSVRVAINDT LFVLCAVSLS ICLYKISKMS LANIYLESKG ACYNLFILSF SQNKSVHSFD YDWYNVSDQA DLKNQLGDAG YFFRVRNFTK DLTNPGMVPS HGFSPRSYFF DNPRYDSDD DWGQQTNSFL AQAGTLQDST LDPDKPSLG GGGCGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	agggggact cotgrggcc atactggtgg ttgagttcct gcttggcctt gtaccgcttc agcatccgga agcagccc tctctgccact gctcgcactc acactggcct atggggaggc cctacctctac ccccaag cactggcact atggggaggc tcctcttcac ctgcaacctg ctgggcagc tctctctac ctgcaacctg ctgggcagcg tcatcttcac gggccgtgag cactggcagc tgggtcctgg ccgaagcca gggccgtgag cgctgccggc tgggtcctgg ccgaagcca tctcccacct gaagaggccg tgggtcctgg ccgaagcca cctgcatcaa gtgtctgggg tagacagaccagggggggggg	ayortugoag acaragocca ggocacagaa gocotggago ugggoccta cgtgggotac caggtgatgc ggggcotcat gccctggcc ttctgtgtcc accetctact ctacatggcc caggtgatgc ggggcctcat gccctggcc ttctgtgtcc accetctact ctacatggcc ccagaggacg ctgctgccga cactgcccctca atgccacagc cgcccctaaa ccgtcagagc ccagtcccg tgagctgagc caatga MDRGAKSCPA NFLAAADDKL SGFQGDFLWP:ILVVVFFLVAV ASNGLALYRF SIRKQRPWHP P AVVFSVQLAV SDLLCALTLP PLAAYLYPPK HWRYGEAACR LERFLFTCNL LGSVIFITCI SLNRYLGIVH PFFARSHLRP KHAWAVSAAG WVLAALLAMP TLSFSHLKRP QQGAGNCSVA RPEACIKCIG TADHGLAAYR AYSLVLAGIG CGLPLLLITLA AYGALGRAVL RSPGMTVAEK LRVAALVASG VALYASSYVP YHIMRVLNVD ARRRWSTRCP SFADIAQATA ALELGPYVGY
G Protein- NP_003263.1 Coupled	Receptor IM7SF1 Purinergic NM_002566	P2Y11	Purinergic NP_002557.1 Receptor P2Y11
	6853		6853
360	361		362

	Homo	sapiens																						Ното	sapiens							Ношо	sapiens						
LPLNATAAPK	cagtcatgtc A	cctgatcatc	gctgcagaag	ctcggacatc	tcccctgacc	ctgcagctac	ctgtcaccc	cttcgtctgg	gtacccctg	ccaccacgag	gaccgtgttc	cgtagccttc	ენნნნნეენნ	caggaggcag	gcccaaccag	ctacttccgg	ggtcatcaac	ggtgctgtgc	tgcgcactcc	gcgccagtcc	cgagccccag	gaaaccagcc		TIRVTQVLQK P	HTFLFEACSY	LFAMGTEYPL	YLWLLSVAF	TLAVCWMPNQ	FRRVFVQVLC	STFQSEAEPQ		gagcccgggc A	gaacgcgagc	gctcttcgcg	gctgcgcggc	cgacctgtgt	ctgggtgttc	cgccagcagc	gctgcactcc
PEDAKSTGQA	tcattgatca	ttctggtgta			tcatctggaa	: tcttcgaggc	acatcgccat:	: tgctgattgg	tgggtactga	ccagcacccg:	ccagccgctg:	tectgetete	agggctcgct	gcaggaccgc	tatgctggat		: acctcagctc	) tgttcgtgca	: tgcgcgtaca	: tcgcgtcccg	: agagcgaggc	actcaggcgc						_	I PLLYTVSSQQ	SARRTEKIFL		g acggctgcag			tggcggtgct		ccctggacgg	. tcaccatgca	tccgctaccc
FCVHPLLYMA AVPSLGCCCR HCPGYRDSWN Q	gggcagtgac tgctcccaaa	ctggatcaaajatcaccetta	gaacagcgcc accattcggg	ggtgacagacicacatggtga	gcccatggag ttctacagca	ctgcaagctg cacactttcc	gacactcage!tttgagcgct	gggaccttgc:caggtgaagc	sg ctgtttgcca	gggtctcact tgcaaccgct	gtccatctgt;accaacctct	cttcgtggtc tacctcgtgg	ggtgctcatg	gaagteegag i agegaagaga	gattgttgtg'acattggccg	ggccaaaccc aagcacgact	ag acgtttttct	ctcgcagcag;tttcggcggg	ac gagaagcgcc	ge cegttgetet	gattttctta agcacttttc		ag catgaagttt	PEFEVATWIK: ITLILVYLII		PC QVKLLIGEVW	QPETSNMSIC, TNLSSRWTVF	SE SEESRTARRO	SE TFFYLSSVIN		DE HEV	ge gaagaeeeag	tc tegggetgee	sc gaggeggtea	cgtgggcaac, acgctggtgc	tc atccttaacc		tc ctcatcttcc.	cctggacagg·tatctggcca
MA AVPSLGCCO			-				_							-	-	_											-	_		-	_							ge ggtgeaette	
	ac ccagcctccc	tg aggtggccac	gg gccttctggg		cc tcatcggcat	ct acaccetgte	gc tgcacgtgct	ca aggetgtgte	cg cctggtggc			ca tcttcggcgc	ga acatgatgca		ct tcctgaggct		ga tectectece	gt acacggtgtc			ga gaactgagaa	cc agtcattgag	-		-		_		KP KHDWTRSYFR		ES LEPNSGAKPA	_	gg tcagcggcac				-		gg ccgccgtctc
QVMRGLMPLA PSEPQSRELS	atggcttcac	cccgagtttg	ttcgtgatgg	aaaggatact	ttggtgttcc	acgtccagct	gctacgctgc	ttcaggtaca	gtcacctccg	gtgaacgtgc	cagcccgaga	cagtccagca	atgtgctgga	acgcggcctc	accatcatct	attcggagga	gcgtacatga	ccgctcctgt	tgccgcctgt	accaccgaca	tctgcaagga	tctaagtccc		1 MASPSLPGSD	KGYLQKEVTD	ATLLHVLTLS	VNVPSHRGLT	MCWNWMQVLM	IRRIMAAAKP	CRLSLQHANH	SKSOSLSLES	ggacaggtgc	agcctcgggg	caggcgggcg	ctcatcttcc	ggccaggcgg	ttcatcctgt	ggctcgctgc	ttcacgctgg
	NM_001508	1	•				;								:			•						NP_001499.			•					NM_003857							
	G Protein-	Coupled	Receptor	GPR39						* <b>.•</b>	:					•		-			٠.		•	G Protein-	Coupled	Receptor	GPR39	:				Galanin	Receptor	GalR2					
	6921																							6921								7221	,						
	363																							364								365							

aaacgcgctg gcagccatcg ggctcatctg cctgagctac taccgccagt cgcagctggc cgccctcgc cgccgcgca tygacatctg ggttggccgcg cgccgcgcgcgcggtggtggccgcg ggttggccgcg gttcggccgc tctgctggat gttcggccgc ttccctacgc tccctacgcg tcaacccat caaaggcttc cgcacgatct gcgcggccac ctcctacgc actcctgcg tcaacccat ccaaaggcttc cgcacgatct gcgcgggcct cgtgtgtg catgcaggcccacgacgttg cacatgagcg ggggcacca cgacctgttg cacatgagcg aggcggcgggccttgacctgttg cacatgagcg aggcggcgcg catcctgacg gttgatgtgg cctgaaagca tggagtcatt.gttgatgtgg cctgaaagca tggagtcatt.gttgatgtgg	NASQAGGGG WHPEAVIVPL LFALIFLVGT VGNTLVLAVL LRGGQAVSTT P Homo DLCFILCCVP FQATIYTLDG:WVFGSLLCKA VHFLIFLTMH ASSFTLAAVS sapiens LHSRELRTPR NALAAIGLIW GLSLLFSGPY LSYYRQSQLA NLTVCHPAWS TFVFSYLLPV LVLGLTYART LRYLWRAVDP VAAGSGARRA KRKVTRMILI PHHALILCVW FGQFPLTRAT YALRILSHLV SYANSCVNPI VYALVSKHFR LGRAPGRASG RVCAAARGTH,SGSVLERESS DLLHMSEAAG ALRPCPGASQ SWQGPKAGDS ILTVDVA	agtaggetiga agetigaace egaaaagace tiggitgeaag ectecaggea A Homo agtigggetiga aggetigece aageticete etetecetet gtagagecta sapiens etgetigeage egetectigag eteatigaage eteatigaagat etecetetig gagetigatiat etgitacecta aacagtatga etatgaagat etgitatetigtig gegitatiat etgitacecaa aacagtatga gtgggtecte atgitagetig gegitatiat etgitacecaa aacagtatga gtgggtecte atgitagetig gecetiggigg geaacacget ggtetgectig ggaaccacca eatgaggaca gecetiggigg geaacacget ggtetgectig ggaaccacca eatgaggaca gecetiggiggiggiggiggiggiggiggiggiggiggiggigg
	MNVSGCPGAG N NLFILNLGVA D LDRYLAIRYP L APRRRAMDIC T VAALFCLCWM P KGFRTICAGL L	coctcocttca a goctcocttca a gagatgaccct c cagatgaggg t a cagatgaggg t gagttctcc g a gagtcctgacg t caccactat t catagacca a ctcatagcca a ctcatagcca a ctcatagcca a ctcatagcca a ctcatagcca a ctcataccca a ctcatacctca c ctcatacctca c ctcatacctca c ctcatacctca c c ctcatacctca c c ctcatacctca c c ctcatacctca c c cacacactca c c cacacaca
	NP_003848.1	M_001525
÷	Galanin Receptor GalR2	Orexin Receptor 1
	7221	7246

	Homo sapiens	Homosapiens
gcaaattccg ggagcagttt gcggctctct gaaggcccct agagccgatg ctccatctcc tgctgccctg agcgagggct catggaaaga cagctggatg gtgactctgg ataagtcact	YPKQYEWVLI AAYVAVEVVA P PASLLVDITE SWLEGHALCK ARGSILGIWA VSLAIMVPQA IVTYLAPLGL MAMAYFQIFR RAFLAEVKQM RARRKTAKML TFSHWLVYAN SAANPIIXNE SLQSRCSISK ISEHVVLTSV	tttctcctcc tggtgtcatt A ctatcttcc ggtgcaacat cagaagactc cggaggcatt cttctagct tccgcgcag gagagactt tggaggact tgcagcattg tggaggact cccccttgt aaccctttt aaacccaac aatacctgc cccgaaagaa tcgtggctc cattgggaac cactacttc cattgggaac cactacttc cattggctac cactacttc cattggctac cactacttc cattggctac cgtaacact tttgcaaagt gattccttat gctgtatcgg ccaaagcggc ccgtaacagc cttttacgga gtttcttct ggtgactac gtgaacaca cttttcgcaa acttggtgt ggtgatgag gtttctttct ggagccct gcagcctt tgagagcctt tgagagcctt tgagagcctt tgagagatgt ttacctttc acactggtgt ttacctttc acactggctt ttacctttc acactggctt ttacctttc acactggctt ttacctttc acactggctt ttcccagagat atttgggatg ttacctttc acactggctt ttcccagagagat ccaaatcagc cctaaatcagc cctaaatcagc ccttgaccac ccaaatcagc
	·	cggacgtagc cctcagctgc agttgcccgg tcgggagccc gggacaccaat gaaactcaag atcgtggagg atcgtgtcg caccacatga gtgaccatca ggacacatca atgacatcc ataaagacacca ataatgatcc taccacacc taccacatct tatctgcaaa cagagaaaat aagtcccgga gcccggatgt tatctgcaaa cagagaaaat tatctgcaaa aagtcccgga gcccggatgt tatctgcaaa cagagaaaat tatctgcaaa cagagaaaat tatctgcaaa cagagaaaat tatctgcaaa cagagaaaat tatctgcaaa cagagaaaat tatctgcaaa cagagaaaat aagtcccgga gcccggatgt tatctgcaaa
catctacaac cctgcctggc ccacaagtcc gctcaccagc ggggatctgc agtcctgggt	SPVPPDYEDE TNYFIVNLSL ALDRWYAICH VCDERWADDL PSDQLGDLEQ KRVFGMFRQA GPCGSLKAPS'	tcagctgagc ccaccacaga cattttctgc cagtgatgtccat cgtgatgtccat cgtgagaac ggagctgaac cgtgagaga ctggagaac tgatgtgctc ttgatgtctttt tttgatgtctttt tttgatgtctttt cttagccaat tcccaagatg tcccaagatg acgtagct accaagatg ttcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat acgtagcat acgtagcat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat acgtagcat acgtagcat acgtagcat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat tcccaagat acgtagcat acgtagcaac aaggaaaac aattagcat agaaccaat tccttgtagt tcccaagat tccaagat tccaa
d ccaacccat t tctcctgctg t cctctgccag g agcatgtggt g ctccggctcg	MGVPPGSREP A VWRNHHWRTV V SVAVLTLSFI P ELANRTRLFS T TSALVRNWKR C YLPISVLNVL K AAFSCCLPGL	taattgaagct ccagtgaagg ccagaatcac g gacttgaagc c cgcaaatcac g gacttgagcc t catctgcttc g tcctgatcac t gtgtggcagt t gttgtggcagt c tttctctggc a tctggaaatt g tgttcccag g tgaaaattca c ctggaaattca c ctggaaactca c ctggaaattta c ctggaaattta c ctggaaattta c ctggaaattta a tctgaacagg g gtgaaattta c ctggaaattta c ctggaacatc c gaaggccagg a tctgaacagg a tctgaacagg a tctgaacagg a tctgaacagg a tctgaacagg a tcgaaccag c gaaggccagg
aacagcgctg aaggctgcct agtccccgct aaaatctctg gccctggagg tggtgaaagg	<b>H</b>	gggggggggggggggggggggggggggggggggggggg
	NP_001516.	MM_001526
	Orexin Receptor 1	Orexin Receptor 2
	7246	7247
	œ	n

271/448

	2/1/448		
Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
aga actttctgag caagttgtgc tcactagcat aagcacactc  igg accacttcaa aactggtaga atatttattc atatgacaag  itc ctttttaaaa tcactggtaga cagaaatttt attatcctat  it tgtggatctt ttttttttt aatctattgc tctttggaaa  iaa aatgaaaaaa aaaaaaaaa aaa  ise LNETQEPFIN PTDYDDEFI RYLWREYLHP KEYEWVLIAG P  IVW KNHHMRTVTN YFIVNLSLAD VLVTITCLPA TLVVDITETW  IVW KNHHMRTVTN YFIVNLSLAD WLVTITCLPA TLVVDITETW  IVW KNHHMRTVTN YFIVNLSLAD FEFL RYLWTITCLPA TLVVDITETW  IVW KNHHMRTVTN YFIVNLSLAD FEFL RYLWTITCLPA TLVVDITETW  IVW KNHTLFTVC DERWGGEIYP MYKHICFFLV TYMAPLCLMV  ISS VVQRKWKFPLQ PVSQPRGFGQ PTKSRMSAVA AEIKQIRARR  ISI SILNVLKRVF GMFAHTEDRE TVYAWFTFSH WLVYANSAAN  IRS CCCLGVHRQ EDRITRGRTS TESRKSLTTQ ISNFONISKL  IGP LONW		VYSITEVIEW INVESTIEM INVESTIEM INVAIVED INVAINGAS YELLIDGENY ILLECULVII RTILMQPVQQ GFQDSKFHQA INDAHQVTLC TTDTVTEVVV PFNQIPGNSL	cccgcccggc ggcgcccagc gaggcaggag tggcaggag
aactttgata acatatcaaa ccagcagcca atggagcagg gatacctgag taaaactatc gatgtgaagc taaaattact taaaaaaaa gtcagtttaa taaaaaaaa gtcagtttaa IIVFVVALI GNVLVCVAVW FFGQSLCKVI PYLQTVSVSV CIIMIPQAIV MECSTVFPGL LAYLQIFRKI WCRQIPGTSS KTARMLMVVL LVFAICYLPI PIIYNFLSGK FREEFKAAFS SEQVVLTSIS TLPAANGAGP		MEPHDSHWD MADMLELITL REIKTAGANT SVPVLIHIF FIICEVPHHV RKHLTEKFYS	tgggggcgtc ctccttcgtc cgaggggggc taagaaaggg gggtccccgt cgccagtgct aggacccagc acgggcgtct
NP_001517.1	NM_000952	NP_000943.	NM_007223
Orexin Receptor 2	Platelet- Activating Factor Receptor	Platelet- Activating Factor Receptor	G Protein- Coupled Receptor Ls8509
7247	8436	8436	8509
370	371	372	373

tctgtgacca catgcagtgg acgtccacct cgacgggccc ctctccatgg cagactgtgc cccaaagtct aagtgcttga agtacaggga ctcctggaga gagagtgagg tgcctggagg gactctgtat tattccctgc acaaaggtgc cggacgacgc tgtgccagcc ccactggaga tataacatca cagaacacca cgaaacagca attttccaa gaagccaaca gtcgagtgcg cttctgtgtt ggagggagtg ggttggcgat ccaggcgccc **B**cdddcddcd tctccaaatg agegegeteg acaaccgtgt tggtggatct ttgaggtggg ctcgtggctc gtcgtcatct catctatgcc tgaatgggtc cgaatgcctc tgtgaaccgc caccgtgcag tcactgttgc catctgggcc gatactgatc atctgtccgc taatgtggtc gggtagccag ctcagagacc taaagtgagc cgggggtccc ggaggagga gggctccgag gagetggate aacttgccgc ctcggggatt agtattctgc agtcctctat cgttctggtg cgccaccctg ggtcgtctac tgtttggctg atttagcacc gagcacagtg cggggggctt ctccttgcaa gggaaatcta tgatccatgt atccagcctc aaggagaggg gggcggagg ctgggatcca cgggcgccgg caggactccg ccggacccca ggatgaggaa ccctgataag gctgatccag ttggaagcaa gtcgggcact tcacatcgcc ctgtaccgcc agttcaccac aacttcatgg:tgttatggtc gcatacgctc tggccatgtg,attgtatgat ttgaatgata gtcggctgct.ccggcttctc aggaggagag, gctccgcgcg ttcattaaaa acctggcctg gcaccagtcc ttttgcacaa tcccgtgaacitggtgatgta atgtggctga gtggtggtgt.tcctcttctt tagcagcgct ccgagctgca tgctcactgc ctctttctta, ctgtgaacaa ccaaggagat cccaccct ctgaaacatt ctcagtggct ttgggcaaca ccccagaaga gcagaaacaa tgggcagttt ccaaacqttc tcctcccqct tagccctcga ccttgaccat tgaccacct tggctgctga ctecetecet. eccegeetee gacataacgg tecggegeeg aggetgeggg ggtactactc acctggtgta atgccacct acagtcgccg agcccacaga agtatatgta, tccatctcag gtcttcttgc ttgtaaattc tacgttggct agggatgccc. catgggcgct agagcgccct tgggccacgc cgccttcttg ctcgccatgg atcatcctca gtcgtcaaat gctttggaca gcagtaacca tccttgggcc aaggtcatca cagcgggagg agcgtgccct caccaccggt ctggaaccca cagatettta gacttccagg gegeeetetg cctgtggaac gagttgcctc cggaagatga ccagatgett ggacaagagc gagggaccc tgtgcctgtg ccaatatggg ccacccaage atagcttcgg gggactggag tcgagtgggc ctgaccgtgc gcagccgcgc cctcacccgg gagteceage gcacaacgcg cgaggcgcag caccaacagg gcccttcgac cttctgcaag tgatgccaag ctggagcaac ctatqcctcc catcttgtgt tgacacttcc aaaccctgtt ggtgcaacta tgaggccagc gccacagttt accggcagcc tgggcctttt getteeeeee ttattgaggg ttetetgtgg gcgtgggcat gcgggagcgg gctgctcgga ccctgctatt ccctgtgttt ccagaagaag tgggcagcag tggctcagct cagggtggag ctagcaagga gggaatgctg ccctgctggc tgagtgccag tagggaccct gtggcatggc cccaggtggc ccaaggtagg tcagggcttt ggactgaaaa teggeggget ggcatggggc gcgcgtccct ggaaaatatc tggccagtgt gcacggaagt ccacggtcat tctctattcc tgatggtctt tcaatgtccc tgttccacat ccaagtacat gagagcaggg agtttggctt agaagcggct aggtggattc accagagtgt gttgattcct agtgtcctct cggccactcg tcagcccgag gaaggaggca tccattcctd gtggagacgt cgcggagccg ccagcgagcc gggagttcgg tcataggctc tcaaatctgt tggtctgtgt acaccatgct tecteagett gtccacatta

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	Homo sapiens	Homo
	ω	∢
gaacacacag .gaattc	IFIGSLIGNE IYTMLFCKVV VVASVPVFAV ALSASQKKV VLNVPDTSVE GSGMAEASLE EGEGGPQFAP SKKRLLPPLG	gttacattcc agatgagctg tctcaggggc gaggttctgtt caaatacaga aacaaggtgc gaaaccagct tttcccagct ttttccagct ttttccagct ttttcacaca cacatctatct gggaaacct gtctaccac gtcctaccac ccacacagggg ctcctaccac gtcctaccac ccaccaggtg ctccttttt gattgttatc ccggctcaat agactgctgg atgagctgaca acattgacaca acattgaca acattgacaca ccacacaggtg tctattcac ccggctcaat agactgctac agattgataac cctattcac acattgacaca acattgacaca acatagcaca acatagcaca tcattgacaca acatagcaca acatagcaca tcattgacaca cctattgacaca acatagcaca tcattgacaca acatagcaca tcattgacaca acatagcacaca tcattgacaca acatagcacaca tcattgacaca cctattgacaca acatagcacacac tcattgacacacac cctattgacacacac acatagcacacacacac cctattgacacacacacacacacacacacacacacacaca
gctctgcaga	· · · · · · · · · · · · · · · · · · ·	acaagatgct aaagcacctg ttctatgtcc ttgatattct agatgcctcac agcacctca ggggcctttt agaattcac tgtgcatcca tgtgcatcca tgtgcatcca tgtgcatcca tgtgcatcca tgtgcatcca tgtgcatcca tgtgcatcca tgtgcatcca tgtgcatca tgtgcatcca tgtgcatcca tgtgcatca acctctacac ccttcttcct acctcttgg tgacctttgg tgacctttgg tgacctttgg tgacctttgg tgacctttgg tgacctttgg tgacctttgg tgacctttgg tgacctttgg tgacctttgg tgacctttgg tgacctttgg tgacctttgg tgacctttgg tgacctttccac aggtaataga acctttccctt acctcaccac cctggtagtg tgacctttccat acctttccat aggtaataga
aggatgeete;aetteeetgg acaggageag ggageaggag		
aggatgcctc acaddagcag	AEAGUNESA KNIACSGICA DRYYSVLYPL GHLVYVLVYN EAELHATLLS LTVNKSVRKC FKPTEDEEES EPETFPDKYS MSRNNKVSIF	tttggctgct actatactag agagatccc atccatatta agcacgctca acctactaa aaatatccac ggaagtttcc atttttttac ctgaaaccttg ttggaaccttg ttggaaact ttcccttctg caacctctct ctcaagaag ttcccttct ctcaaaaag tttgccat aatgttggtt gtttgccac aaaggaagag tctaggcttc aaaggaagag agattggct ggaaaaag gttggcac aaaggaaaaa aaaaaaaat aacaaaaaat aacaaaaaat aaggtaggct aaggaaaga gcatcttga ttgccac aaaggaaaga cccac aaaaaaaaa acaaaaaaa acaaaaaaa acaaaaaa
gcactttctg ttcadadctc	NASEPHNASG VEKSVTNRF1 TILSFPAIAL TCTEVWSNSL TISIPYASQR VSLLANPVLF EMFHIGQQOI VSQVAPAAAPV VPKVGRVERK	tagaaacaca agctctgaag aaaggtacac ctagagaatt gggaagattaa ctaatggcca ctgacacaat acactcggc tcatcatctt tctccctct tctccatct ttgggcca tctcagacca tttgggctgt agaactggcc agaactggcc agaactggcc agaactggcc agaactggcc agaactggcc attttgttcc ggatcaacac cttcaacacac cttcaacacac cttcaacacac ggatcaacacac cttcaacacac cttcacacacac cttcacacaca
taccccatgt	MGHUGSWISP MYLWSTCRIT KFLHKVFCSV TNVADIYATS IIAALRIPQN LLLTAVWLPK PSIRSGSQLL SAPPLSTVDS NTPEELIQTK	ttgatagga ttgcctcact agaggagggt tttgctacca cacagaaca tcttacaatc acacacaca tctctcaca attgccaatc attgccaatc attgccaatc attgccaatc attgccaatc attgccaatc cactgatg gcctgtgtgg ctgctgcag tgcctgcag ctacactga atcacactga atcacactga atcacactga atcacactga ctactgcag ctgctgggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg agaacaaga ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggggg ctgctggaggc ctgctggaggc ctgctggaggc ctgctggaggc ctgctggaggc ctgctggagg ctgctggaggc ctgctggagg ctgctggaggc ctgctggagg ctgctggaggc ctgctggagg ctgctctgag ctgctctgagag ctgctctgagag ctgctctgct
	NP_009154.1	NM_006173
	G Protein- Coupled Receptor Ls8509	Neuropeptide NM_006173 Y Receptor Type 6 Pseudogene
	8509	9 6 8 8
	₹	v

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Homo sapiens	Homo sapiens
Ω.	∢
tggggaacaa tgatatgcct fgnlslilil ltsyvqsvsi lsyhltdepf kiviclrrrn	aaagaggatt caatatcggg tttgtaaaa ttgaaaaatga gagctgtgat ttgttgccat ttgttgccat ttgttgccat ttgttgccat ggagaccaaa catttgttgt ggttgtttt ggttgttgt ttattgcta agagaact agagaact agagaact agagaact agagaact ttgttggt ggttgttgt ggttgttgt ggt ggttgt ggttgt ggttgt ggttgt ggttgt ggttgt ggttgt ggttgt ggttgt ggttgt ggttgt ggttgt ggttgt ggttgt ggttgt ggttgt ggtt ggtt ggttgt ggtt gg gg
cagtgatggc ttatgactaa aytvvlivgl hwifgdtmcr fslilsipff plgfilicyl	
gcagagagag aggcaaacag caatggaata tctacaaaag tccttagcac tgagaat affyfescqp pspallllci sdtlvcvmci hftijytlmd prgwkpsvth aywgitliwl pskkdrllft tslfllgyfv tmlisiyntf gacwlnrisk	transaryon yacargusa taataagcag gagcgaaaaa tagatcaaaat taattttaget acttgatatt taccttaget acttgatatt taccttaget tagattgtgaa cetttectte ttgtctacae attaatggac ttgtctacae attaatggac ttgtcaatg tgttcaate gacatcaget gataatcaa gacatcaget gataatcae tagagaattg tagatcgate tagagaattg tagaccae tgcagtattt tggtccaect taaagaagaat caatacae tgcagtattt tggtccaect taaaaaagaat caatacae tgcagtattt attcctggtc tattttatgg gttcctggaa tgtttccaa aacttctttg atgatttccaa aacttctttg atgatttccaa aacttctttg atgattacat ttgaagact agaacaact tattttatgg gttcctggaac tattttatgg gttcctggaac tattttatgg gttcctggaac gtacttattg aaaatgacta gtacttattg aaaatgacta gtacttattg gaatgaaatt ccaacaattg aaaatgacta gtacttattg gaatgaaatt caacaacttg gaatgaaatt caacaacttg gaatgaaatt gaatgaaatta gaatgaaaa gaatgaaatta gaatgaattagaa gaatgaatta gaatgaattagaa gaatgaattagaa gattttttiggt ctttcatttc
gcagagagag caatggaata tccttagaaca affyfescqp sdtlycvmci prgwkpsvth pskkdilft	traataagcag traataagcag traatcagaaa troccagaaaa ccatgatatt acctggcctt tgattgtgaa ttgtccaacg gacatcagct taatgactga taatgactga taatgactga taatgactga taatgactga taatgactga taatgactga taatgactga accaaaagaag ccaaaagaag accaaaagaag accaaaagaa accaaaagaa accaacaaga atgttccaa aaatcattg gtaattacaa aaacaacaag aaacaacaag aaacaattg gacaaaagaa accaaaagaa accaaaagaa accaaaagaa accaaaagaa accaaaagaa accaaaagaa accaaaagaa accaaaagaa accaaaagaa accaaaagaa accaaaagaa accaaaagaa accaaaaagaatccaaaa accaaaaaaacaaa accaaaaaacaaa accaaaaaa
gaatgagaaa tactttatt ctgctatacc nttstknnns tsilianlsl averyglivn thqvacyelw	
caaagaatga tgttcacaga agtaaaaaca mevslnhpas fkkqrkaquf svsifslvft rnlslptdly	attaccacc gatacttata tcattcattc tgattgtcat cattcttggt gagaaatgtt cattgtcat gatgtctcat taattgcat gatcattgc gatcattgc gatcattgc attgcagag atttgcagag atttgcagag atttgcagag atttgcagag atttgcagag atttaaaaaa ggtcccagg tctccagg atttaaaaaa attaaaaaa ggtcccagg tctctcaga atttaaaaaa ggtcccaagg ttaccaga atttaaaaaa ggtcccaagg ttaaaaaaa ggtcccaagg ttaaaaaaa ggtcccaagg ttaaaaaaa ggtcccaagg attaaaaaaa ggtcccaagg ttaaaaaaa ggtcccaagg ttaaaaaaa ggtcccaagg ttaaaaaaa ggtcccaagg ttaaaaaaa ggtcccaagg ttaaaaaaa ggtcccaagg ttaaaaaaa ggtcccaagg ttaaaaaaa ggtcccaagg ttaaaaaaa ggtcccaagg ttaaaaaaa ggtcccaagg attaaaaaaa ggtcccaagg ttaaaaaaaa ggtcccaagg ttaaaaaaa ggtcccaagg ttaaaaaaaaaa
NP_006164.1	900000 mu
Neuropeptide NP_006164. Y Receptor Type 6 Pseudogene	Neuropeptide nm_000909 Y Receptor Type 1
8896	9421
376	712

	Homo sapiens	Homosapiens
atacttotoa gotgoaaata ttatggagaa ttggggcaccc cagotococca acttoaaac cattttggta cotgacaaca atttaataaa gtaaattagt attgotgcaa atagotaaat gtcaagagat tttccatttt tttacagac tgttcagtgt tatgtactcg aaagactttc cgcttacaat ttgtagaaac agcaagtgcct aatagtgac tgatttaac ttccaatgtc accaaggtac aatgttaaag gaatattcac tttccatgc tgcagatact tcatatagcc cattttaact tgtactaaact taaaataatgc actgtaaaga ttactgaata gttgtgtcat gtatcttgta atcatgattg agcctcagaa tcatttggag agacatactt caatgtatta tacagataa gtattacatg gacattttat taaaatcaat attgtttttg ctttttctga ttttcccat cocatgactt coctccqatq qt	DDCHLPLAMI FTLALAYGAV IMCLPFTFVY TLMDHWVFGE NNRHAYVGIA VIWVLAVASS YTTLLLVLQY FGPLCFIFIC AFAVCWLPLT IFNTVFDWNH LQFFFNFCDF RSRDDDYFTI	etctgcctc ctccaggacc agcactgcaa agcccttctc A ctctgcctac ctccaggacc agcactgcga gagcctgtcc caatggctac ctggccaatgg cagctgggcc caatggctac cgggagtgcc tggccaatgg cagctgggcc ctcaactac ctgggccact gtatctccct ggtggccctc tctgcggctc aggagcatcc ggtgcctgcg aaacatcatccttctatcctg cgcaacgcca cctggttcgt gacagccgcccaacttcttc tggatgttcg gcaggttggt gacagccgcccaacttcttc tggatgttcg gcaggttggt gacagccgcccaacttcttc tggatgttcg gcaggttggt catctgcattcatcattgtg gcctgggcga aatggatgtt catctgcattcatcattgtg gcctgggcaa ttgggaagct gtactacgacccaacattgtg gcctgggtgaagct tacctgcattcattgtg gcctgggtgaagct gacacaggca attgggaagct gtactacgacccaacattgtg gcctgggtgaagct gaggtgttaca cgacacactc caccaggccattcattcattcattt tcaacatcgt ccaccaggc gatcaattccttc tcaacatcgt cgcatcctccacagtcttcatttcat
ttaaaaatga ataaaaagac atac acaggaatga agagagaaag cagc agagcattt agagtaatta att tatatttatt tgaattgatg gtca ttgtcaagct tctggtctaa tact acaaatatcg ttttccatac agca catctttcaa aggaagtaac acca aggaaaaat acacaaaac tgca agggaaaaat tggcgtctta taaa gttaatgtgc ctaatttcat gtat aaactatatt ttaaagaaca agac tgtttgattt taaaagagcg gaca ggagtctctt tcaqtttcat ttt	NHSVHSNESE MRNVTNILIV LVLIAVERHO AYKDKYVCFD NKYRSSETKR ISTCVNPIFY	gcccgaggat tgaaccccgt actactccga tcgcagtcat ttgtcctctt tcatctccc ccgaggtcca tccatgtgac tgcccttccc gctgttgac tgcccttccc gctggtctcc gctggtctcc tccgggcatc tccgggcatc
	Neuropeptide NP_000900.1 Y Receptor Type 1	Corticotropi NM_004382 n releasing factor Receptor 1
	9421	9834

Homo sapiens	sapiens
NIS DNGYRECIAN GSWAARVNYS P. FVL FLRLRSIRCL RNITHWNLIS FHV TNFFWMFGEG CYLHTAIVLT CWF GKRPGVYIDY IYQGPMILVL VLL PLLGITYMLF FVNPGEDEVS WHR WQDKHSIRAR VARAMSIPTS	ege agegaggagg egggegggaa A gge gecaaggage egggtgggggg agg gectecate ecegaecac aca tegetgetge getgetgetg get tegetgaecac eag gectagaggt geaceagtte tetteetgtg etceatgtac egg gectectat etgtgagege ttetteetgtg etceatgtac egg gectectat etgtgagege egg gegetgec egggetgec egggaecac eagtteetge egggaecac eagtteetge egggaecac eagtteetge egggaecac eagtteetge egggaecac eagtteetge egggaecac eagtteetge egggaecac eagtgegget eagtteette eagtteetge eggtagecac eagtgagggaecac eagtgegggaecac etgggagggaecac etgggagggaecac etgggaggaecac etgggeagaecec etgggaecagae egggetacece egggeeagae egggetteetgggaecac eagtgecagae eagtgecaga eagtetttt taaataaaaa aag agaactect geceaacac eaga agaactect geceaacac
KALLLLGLNP VSASLQDQHC ESLSLASNIS KSKVHYHVAV IINYLGHCIS LVALLVAFVL VVQLTMSPEV HQSNVGWCRL VTAAYNYFHV FICIGWGVPF PIIVAWAIGK LYYDNEKCWF VRILMTKLRA STTSETIQYR! KAVKATLVLL LESFQFFVS VFYCFLNSEV RSAIRKRWHR OSTAV	trggcaaagag gegegggagg eggeagecege ctecoggggtgg eggggggggg eggggggggggggggggggg
3.1 MGGHPQLRLV ECQEILNEEK AFILRNATWF YSTDRLRKWM LINFIFLFNI RVNEIFFENI PTRVSFHSIK	cgaggaagt gaagagaagt gaggaagt gaggaagc gacccagac gacccagga gaggaagc gaggaagc gaggaagc gaggaagc gaggaagc gaggaagc gaggaagc gaggaagc tcaagaaga gacccttcc acaggaaga gaggaaga gaccataga gaccataga gagctagaagt tcaagcataga tcaagcataga gactcataga tcaagcataga gactcataga tcaagcataga tcaagcataga gactcataga acagcataga tcaagcataga tcaagcataga tcaagcataga acagcataga acagcataga ctaagcataga tcaagcataga acagcataga acagcataga ctaagcataga ctaagcataga acatccacacacacacacacacacacacacacacacac
L NP_00437	NM_001466
Corticotropi n releasing factor Receptor 1	Frizzled-2
9834	10457
380	381

277/448

Homo sapiens	Homosapiens	Homo sapiens	Homo sapiens
LLPLLLLPAA GPAQFHGEKG ISIPDHGFCQ PISIPLCTDI AYNQTIMPNL P LEVHQFYPLV KVQCSPELRF FLCSMYAPVC TVLEQAIPPC RSICERARQG QWPERLRCEH FPRHGAEQIC VGQNHSEDGA PALLTTAPPP GLQPGAGGTP RYATLEHPFH CPRVLKVPSY LSYKFLGERD CAAPCEPARP DGSMFFSQEE WSVLCCASTF FTVTTYLVDM QRFRYPERPI IFLSGCYTMV SVAYIAGEVL SEDGYRTVVQ GTKKEGCTIL FYMLYFFSWA SSIWWVILSL TWFLAAGAKW YFHLAAWAVP AVKTITILAM GQIDGDLISG VCFVGLNSLD PLRGFVLAPL LLAGFVSLFR IRTIMKHDGT KTEKLERLMV RIGVFSVLYT VPATIVIACY ERSWVSQHCK SLAIPCPAHY TPRMSPDFTV YMIKYLMTLI VGITSGFWIW		APSAAGPPGG TSSAATAAVL SFSTVATAAL GNLSDASGGG TAAAPGGGGL PAAVRRPLGPE AAPLLSHGAA: VAAQALVLLL IFLLSSLGNC AVMGVIVKHR LSLSLSDLLT ALLCLPAAFL: DLFTPPGGSA PALPAGPWRG FCRPSRFFSS AHLVGPLLRY RRPPREKIGR RRALQLLAGA WLTALGFSLP WELLGAPREL YRTSPDPAQL GGPFSVGLVV ACYLLPFLLI CFCHYHICKT VRLSDVRVRP SARCARPPPS SS	cagaaggtgg atagacaat ctccaccttc agactggtag gctcctccag A acaggaagt gtgaaaatc ccagcactca tcccagaatc actaagtggc ggccaaagtc ccaggacaga cctcattgtt cctctgtggg aatacctcc tcctggattt ccccttgca acccaggtca gaagtttcat cgtcaaggtt ttttttcctg tctaacagct ctgactacca cccaaccttg aggcacagtg tggccactcc aataacagca ggtcacagct gctcttctgg aggcgccagtg ggccaagga gttaaaggtta cctcaaaaaa ggaaggtttt
MRPRSALPRL I LGHTNQEDAG I CEALMNKFGF ( GGPGGGGAPP F TRFARLWILT W QERVVCNERF S GHEAIEANSQ ) FVYLFIGTSF I FYZEQAFREHW I SGKTLHSWRK F		MALLGSQHSG / GGSGAAREAG / QLRTVTNAFI / CFGIVYAQRG / AAGQSFHGCL / VNTYARVLRS !	cattcagaga a aagccatcag a acctgtcctg caggagggca tgtttcatctt taaagacatcgg tcaggtgaaaa g
NP_001457.1	NM_022571	NP_072093.1	nn_001557
Frizzled-2	Putative Leukocyte Platelet- Activating Factor Receptor (HUMNPIIY20)	Putative Leukocyte Platelet- Activating Factor Receptor (HUMNPIIY20)	Interleukin- 8 Receptor B
10457	11968	11968	14198
385	383	384	38 8 8

gaaacctġtc gaggttgcag gtctcagtcc tagaattaac cagggacttg aaggcagaag acacggacga tagtttatga cagaacagtg tgttatgtat caaagacagc tggtgcctca ctgcatactc tgcctgtaat tgtaaaatgg atgtacctaa cacagggttt accgcaatgt accaaggctg attcaatatc gatccaggag tctgggcatc tegecatgga agacctcctg aggaagtaga cctgagccca agaatccctd gagectgetg cgtcactgat gcccatctgg ggtctcactc tgtggaccgt ggtcaaattc actttccga caacaataca cgtgccactg ccacatgggg gctctgctgg agcctcatgt aaatgatttc aaaatgtgat acatgttaca tggtcaattt tattttaatc actccctgcc ttgtggtcac ccatcctgcc gtgagactct acttcagaca gaaatgaaag aacagataaa agacagaaag gtttaatggg aagatcttag catgtgaacc tattcctgct teggeegete ccctgacctt tgtgcaaggt cctgcatcag agcgctactt tgcctgtctt aggacatggg ttggcttcat tgtttaaggc tcatcttcct ggacccaggt ccaccgagat gccagaagtt ctactctcta tcacattcca aagcttgccc tgagacagct ccaacggggt tggtggtgag cccgggagca tgggggggat caagacccaa tgatagttgt attttttgtt gtcatttgct ggagctctgc gccatccagc ctgagcgaca ctggaactct.cgagcgttgc gaatgaatga atggctaagc aagtactcat agtgaaataa: gccagacatc acacttaaaa atggtttaaa ccccaaaagg tttcccttgc.atggtttaga agtgaaaatc tacactccag gtatggcage, tttcctcaaa ttataggaat | tgacccacaa gagagtgaac aaatttacag taaacagtag tggaaaggtg gctgtcgtcc catcgaccgg gctctggatg ctcttcacag gcagccccca aagaaagaaa atcaggctgg agatgggaga;atcacttgaa tattcatage agettattea ggaagtgacg ctgacccaga ctcctggccc gcctgctatg ctgcgtacgc gctggcagac; acceteatga gccttcattg acatggcttg atcagcaagg cacacttcca aaaaaaaat tagccgggcg gatgccgccc tatgccctgg ggtcatctta 'tacagcaggg cttggccgac ctactcttg ggcacattcc ctgctactgg cccagtcct tqaagatttc ggtcatcttt ttcttcaggg cagtgtcaat ggggagcatg ttttctacta ggtcattatc ctggattttt tagtggcatc cacacgcaca tctgtccttg tgttagccca acggatcctg cctcatctac ttcctccctt aagaggaatg gttctgcaga aaaacctgag acctgcctat ttacttgggt cggattcacc taattactat tgttctaaga ctagtatcaa atacaaaaa gcagaagaca gcaattccac gttcatcaat ttcagcctga ctttatgcta actgagggga aatttaaaaa ggctagaacc taaaccattt ttgtccatgc gcatctgggg actcatccaa ggatgctgtt tgttctgcta gggccatgcg acctggtcct gcctcaaccc ttctagctat ttgttggctc gcccgtgggg ttcttggtct ttcttactag tgggaggetg ttgtgccct agaggagaa tgtacaccaa atgaggtact tgttgaaaaa cactaaattg gtgacagett acatgaaca tgaacctagc aggtgaatgg tcaacttcta gccgcaatca agtatttgt tcgtgatgct gacttaatgc attaccaggg attttatatc tttttttaa atgaagatgt caacccaaat cgaagtatcc accttgaaaa ttccacctac atgtttagga attaaaccaa aacatggaga gcaaactggc acctgtgagc aggeetteet ccactggttc tggcactcta attaggatgg tgagccgaga tgtgaccact acatgatcct aacccatatt tacageteta qaaatcaaca ggaaactccc gtctacctgc gccgcctcca ctgaaggaag tacctggcca atatgtctca aggaccgtct ctgatcatgc cagaagcacc ctgccctaca cttcacagct ctcctcaaga cctaagtgca ggaggccacg cccttgcca tctactaaaa cacagctact

Ношо	sapiens				Ното	sapiens																																	
PFLLDAAPCE PESLEINKYF	ALADLLFALT LPIWAASKVN	AIVH AIKILIQKKI LVKFICLSIW GLSLLLALPV WRMI LRILPOSFGF IVPILIMLFC YGFTLRTLFK	LLADTLMRTQ VIQETCERRN	FRHGLLKILA IHGLISKDSL PKDSRPSFVG SSSGHTSTTL	aaaa atcaaaaatg aggttcacat ttacaagccg A	latca cccaacccca attettectg cettttcaaa	nagcc atttctttac gtcgtaggac gaaagaagat	jaccg aatgcagcag ttacccgcat accaaggaga		yatta ttttccggat tttgatccat cagaaaaggt	gtttaaacat cctgaaaaca	tcac;tcctgagaaa ctgaagaatg catatgttct	cttt gtcaattttc accctagtga tttccctggg	ccaaagggta accetgcaca		jtgag ctgcaagatt ttgcattttt tccaccagta	stgct ctgtgaaggg atctatcttc atacactcat	cttgcggtgg	tattaccagg gccgtgtact	ttacataatc	cattgtccgg	cctgaaggct gtgaaggcca	ctttccctgg agaccttcca		jaggt ccaaaccacc gtgaagcgcc aatgggccca	gaggegeee tecaaceget	cccaatttac atctgccatc	gagtgctgag atcatccctt	gcaaacacag catcgtgatc	agtattctcc	yaatt tgtccattgt aaatctgaag aaagttattc		tgtcacagta atgcaagcaa	cagggtgctc cttgtcaata	atatttttat ttttaactct	tgatttttaa	ttacaatgta aaccacatga	gagattagta aatatgtgaa	ttgaa tgcaaaagaa atttagagtc aatttgctga
FEDFWKGEDL	LVILYSRVGR	VVSLLKEVNE ISGILLLACI SVDKILAIVH LLERRTVXSS NVSPACYEDM GNNTANWRMI	RVIFAVVLIF	ILGILHSCLN PLIYAFIGQK FRHGLL	cagaattcca ggacaaagag atcttcaaaa	gtgcttggca ctgtttcttc ttctaaatca	tcaaacctat ccaacaatag agcccaagcc	gatggatgca cagtacaaat gctatgaccg	aggtccatat tgcaatcgca cctgggatgg	agtattgtcc tatcagttct gcccagatta,	tacaaaatac tgtgatgaaa aaggtgtttg	gtccaactat actatgtgca atgctttcac;	gctattgtgg	gattttcgtg tttttcagga gccttggctg	tcttacttac attctgaatt ctatgattat	tggagagete gtgegaaggg acceggtgag;	catgatggcc tgcaactatt tctggatgct	gtgtttactg	gtgccaacca	ctgctggctg agtgtggaaa cccatttgct	acttgtggtc aatttcttct ttttgctcaa	ggaaacccat gaggcggaat cccacatgta	ctgggaatcc	tgggaagata tatgattacg tgatgcactc	gaccatctac tgcttctgca acaatgaggt	cagtggaacc		gccaacaacc	tcatctgctt	catttcctgg gagaaagacc atgcatttaa	tatcatttgt gaagaattat tcagtgaatt	ttggtactgt tgctttggga gacagtctag	atccaggact		tatacctttg aaatattaaa atcactgtca	tctgtatttg		caaagcggct	tgcatttggc aggaagatgt atgctttgaa
Interleukin- NP_001548.1	8 Receptor B				Calcitonin NM_001742	Receptor																								o									
386 14198 1	-				387 14641 (	-																			-														

Homo	Homo
	ILHFFHQYMM ACNYFWMLCE RAVYFNDNCW LSVETHLLYI AVKATMILVP LLGIOFVVFP TVKRQWAQFK IQWNQRWGRR EIIPLNIIEQ ESSA cettgagagt atcagattgt gcctgagagt cacctact tgaattcag atcactcat ttctacaac attactcagt tgattctgag ggctatttgt accgattgcc tggtggtgt cactttgct tgaacatggc cattgcaga cattgcact tgaacatggc cattgcaga ccattgtaca atgccactgg tgcttgggt ccattgtaca atgccactgg tgcgtgggt
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tggtctaat atctatcat ctcctttaa caaggtttat tttgttgaat cttcaaagct tcaacttgtg tgctccaaat atattatcat gtatcgttac tatttaattt ctatgtcata gaattgcata gaattgaatt	YILNSMIIII HLVEVVPNGE AVFTEKORLR WYYLLGWGFP VNFFFLLNIV RVLVTKWRET IYDYVMHSLI HFQGFFVATI AAAEAGDIPI YICHQELRNE caaatcttcc cagtcggctt tcttattgac agatggtcat gtgaggctga agggatgga cgctgcctgt agggatgga tttttctgcc cacaatgagg tttttctgcc cacaatgagg aagattattt tgtgtcagtc gactccttgcc agaatgagg tttttctactct tggcctcctg tctgtgtctt tgtgcctcctg tctgtgtcctt tggcctcctg tctgtgtcctt tggcctcctg tctgtgtcctt tatgacagac ttcttactct cccattctgg tccattctgg ccacattcgaaa ccacattgcaaa ttcttactct tatgacagac ttcttactct tatgacagac ttcttactct tatgacagac ttcttactct tatgacagac ttcttactct tatgacagac
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Calcitonin NP_Receptor	C-C NM Chemokine Receptor 6
388 14641	389 16041

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	Homo sapiens	Homo
tcagattgag atctgttagc tggtgtgatc gaaacatctt cagataaatg taaaaatgtt tacatcattt caggagacat cttttgctc	VRQFSRLFVP IAYSLICVFG P FWAVSHATGA WVFSNATCKL LPRTKIICLV VWGLSVIISS FGFFIPLMFM IFCYTFIVKT LGKMNRSCQS EKLIGYTKTV YKSSGFSCAG RYSENISRQT	tcctggggct gctgctgctg A ggaacgcgac cgggcctggg tgactggcc tccgccgccg gagactcggg atgcctggg gtggagagggagtggagggagaggactccccg cgggccatcgt ggttcggaca cggggccgt cggggcctt ggttcggaca gaattgcctt ggttcggaca gaattgcctt ggttcggaca tctgactggcg cagaattggc tctgccgtgc agattgcatc tcttgtggg agattgcatc tcttctgtggg agattgcatc tcttcacta tcttgtcatc tcttcacta tcttgtcatc tcttcacta tcttgccggcac cgggcaagac tcttgtcatc tcttcacta tcttgccgtgc agatggcac cgggcaagactagc tcttgtcatc tcttcactac tcttgtcatc tcttcactac tcttgccggaagactactac tcttgccatc tcttcactac tggggaagact tttttgggctt cctgacttt tcttcaccacca agatgacct tcttcacaccac cgggcaagacttttttgggctt ccttcactcaccac ccgggcaagactttttttggctt ccttgagagagagagagatttttttggctt ccttgagagagagagagagagagagagagagagagagaga
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	NP_004358.1	NM_005631
	C-C Chemokine Receptor 6	Smoothened
	16041	16599
	390	391

	Homosapiens
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gagcgcagct aagcagccca aagcggatca aagcggatca cagaacccag gcgggcttgg catgtcacca atctcccag gaggtggcc attcccag gaggtggca atgatgcc aggactggact	MADARBARGE LSHCGRAPE VIQPLICAVY EVQNIKENSS TGLCTLFTLA MRIGEPTSNE HLLTWSLPFV RGVMTLFSIK ERSFRDYVLC TLLIWRRTWC AGLAFDLNEP ISPELQKRLG
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	G Protein-	Coupled	Receptor	GPR45																G Protein-	Coupled	Receptor	GPR45				G Protein-		Receptor D6										
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	393																			394							395												

Homo sapiens	Homo
tectt gecatgatet tettetaataet cagge cagggeegg etttaaaaat gette ceatacaate teaecttgtt actgt gaggteage ageatetaga tteae tgetgettt eeceategt tygaag gettectgg etgeagtet eataa tecagetgtt etgaagaga atgae etgagagaga ggeagtet etgagagaga atgae etgagtgaca aattttggte eeca teaaagtget e CRKDA VVSEGKVFLP VFYSLIFVLG PLVTLP FWGISVAWHW VFGSFLCKMV RTRAK SLLLATIVWA VSLAVSIPDM LLGFL LPLLAMIFFY SRIGCVLVRL LDLQV FGNCEVSQHL DYALQVTESI	aagaa gagacagggg tggggtttgg A agggg agcctggatt cgaggggagg agggg gagcgggga gccgg gccgggagg ggagcagacc cccgc cctgggaagg ggcatcagg caact tcctgccagt ggactatgag ggggc ccaaggtccg caagtgcctg ccgct gtgtccgaat ctgctccaag gacgg gtggggacct ccaagctctg cttcc actggtggg cagctcccgg gccc actgccagg gaatagccg ccacc actgccagg gaatagccg ccacc actgccagg gaatagccg ccacc acgacagca gatcatcctt ttgagg ctgctaggat gtggaacctc gtcaa accggcagcg ttccccact gtcaa accggcagcg ttccccact cccta ccagcgtgaa actcttgaa gacca ctgaggtctt cacttcgac aattg agattacttt ccgccagat gaaca ctgaggtctt cacttcgact aattg agattacttt ccgccagat gaagc gccagagag gaagc gcaggatga cagatcatc ttttt gtgaggtgta caaggagcgt
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G Protein- Coupled Receptor D6	Gaba (b) Receptor 1
17345	17535

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φ...

	Homosapiens	Homo sapiens
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	Gaba(b) Receptor 1	Glucagon- Like Peptide 1 Receptor
	17535	17666
	8 6 8	66 E

	Homo sapiens	Homosapiens
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cctttgagat

caagcggcgc

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	Homo sapiens	Homo sapiens
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	G Protein- Coupled Receptor LOC51210	G Protein- Coupled Receptor Ls19072
	18471	19072
	402	φ. Θ.

	Homo sapiens
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	ein- ENSP0000 ed 4265 cor .
	72 G Protein Coupled Receptor

	Ls19072		GSVAMGVICT	<b>AIALFOTLAV</b>	GSVAMGVICT AIALFQTLAV QVGRQADRRA FTVPTIVVED AQGKRRSSID GSEPAKTSLQ	FTVPTIVVED	AQGKRRSSID	GSEPAKTSLO	
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19501	G Protein-	AB018301	gtgcaagaag	aaaatagatg	ttatgcccat	ccaaattttg	gcaaatgaag	aaaatagatg ttatgcccat ccaaattttg gcaaatgaag aaatgaaggt A	Ношо
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	DSSCSRYTLK	•	SGTTVIYTCE	FISAYGARGS	ANIKVTEISV	ANLTITPDPI	sapiens
	SVSEGQNFSI	KCISDVSNYD		KIYQRFYTTR		TVKTSTREWN	
	GTYHCIFRYK					CIEEDGDYKV	
	TEHMGSSSLP					SVWSPSMKLN	
	LVPGENITCQ	DPVIGVGEPG	KVIQKLCRES	NVPSSPESPI	GGTTTXKCVG	SOWEEKRNDC	

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G Protein-Coupled Receptor KIAA0758

	ISAPINSLLO	MAKALIKSPS	QDEMLPTYLK	DESISIDKAE	HEISSSPGSL	GALINILDLL	
	STVPICVNSE	VOMSSTVTKS	SHPETYOORF	VERVENTMEN	VVIDESYLEN	TOSDSSTVTM	
	AFPTLOAILA	ODIOENNEAE	SLVMTTTVSH	NTTMPFRISM	TEKNNSPSGG	ETKCVFWNFR	
	LANNTGGWDS	SGCYVEEGDG	DNVTCICDHL	TSFSILMSPD	SPDPSSLLGI	LLDIISYVGV	
	GESILSLAAC	LVVEAVVWKS	VTKNRTSYMR	HTCIVNIAAS	LLVANTWFIV	VAAIQDNRYI	
	LCKTACVAAT	FFIHFFYLSV	FFWMLTLGLM	LFYRLVFILH	ETSRSTQKAI	AFCLGYGCPL	
	AISVITLGAT	<b>OPREVYTRKN</b>	VCWLNWEDTK	ALLAFAIPAL	IIVVVNII	IVVITKILRP	
	SIGDKPCKQE	KSSLFQISKS	IGVLTPLLGL	TWGFGLTTVF	PGTNLVFHII	FAILNVFQGL	
	FILLFGCLWD	LKVQEALLNK	FSLSRWSSQH	SKSTSLGSST	PVFSMSSPIS	RRENNLFGKT	
	GTYNVSTPEA	TSSSLENSSS	ASSLIN				
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21632 G Protein- AB040964 Coupled Receptor Ls21632

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aaacctaca	aaatgtcaaa	ccagcttccc	gactcccagg	agctcaagcc	aagcccagag

	sapiens	Homo sapiens
tgc ctttactcct tttaaacacc  yca tttcactaca ggaccaaatg  yga aaccaaggtc tgacctaggg  caa ggtgacagag gacacagggg  tgt tatttatgct tgctgcacag  tcc acatatgctg gctgctgttt  tgc aatatgctg ggaaagggga  aga actcgggttt tatacaatag  aaa atttqcaaa qccctttg	EGDEGAGILL SASYCPAERV WEPGDYSHCL MIQKFLGYVD PHAQHISVNA DQQLRFRCTT RNGRLFHSHS VAAWWSQEGP LHPVVYPCTA TNYQMVCQAV LVWRPSLGAF LRGSGPLLSD AVSQRWLPRV LRGSGPLLSD AVSQRWLPRV LPRAAAEDGSP STRCCCATER	cgtgtcctga ctgccgggct actcggtggt gccagacgac tcatcaacgt ggcccgccgc tgccccgcgc tgcccgcgc tatgcttcga tggccgaggc tatgcttcga tatgcttcga tatgcttcga gcctcctgct tggcggtct
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gcagtggctg agcacccgtc gaaaccgagg ttccctccca aggggaaaa acatattaga acacaccctg gggaggaat	G Protein- BAA96055.1 HLIPSLRQVV Coupled RTLAGITAYQ Ls21632 TFVLMPINAS DMASNLMLVD KPHSYVGLTC HIKNSVALAS GKRRGVATPV CQLRSSQPNV ITYILNHSSI TLLWMGVKAR TWIYFLCAGL RVGTPGPPED SALGLFVFTH SSPSGSSGHP	G Protein- NM_020400 atgrtageca Coupled accaccgcc Receptor gcgctagecc GPR92/GPR93 atgrtaacc tactacgcac trecagatga gcgccatcg ctctgcctgg aggccctcgc gacgactgt gacgactgc ccgacgcca ccgacgcc
	408 21632	409 22315

Homo sapiens	Homo sapiens
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	Homo sapiens
ccataacgag ttcttacctg ggtgaataac ggttaaccac gctgccccca gatcccccaa cgccacagag tgccgaagat ggtgaaatag tgcgaagat gatgaagatg agttgatata aggaaagata agttgattata aggaaagata ggtgagacttc ttgaataag ttgaataa gattaataa gattaataa gattaataa actcacaa actcacaa tttatctac tttcttttt tataataa agtcaaaaga agtcaaaaga agtcaaaaga agtcaaaaga agtcaaaaga agtcaaaaga agtcaaaaga agtcaaaaga agtcaaaaga agtcaaaaga agtcaaaaga agtcaaaaga agtcaaaaga agtcaaaaga agtcaaaaga agtcaaaaga agtcaaaaga agtcaaaaaga agtcaaaaaga agtcaaaaaga agaggaaatt ttttgtctacga tttttgtcaaa	IMIESANYGR P PGTYKYLEVQ
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	NP_056051.1
	Latrophilin- NP_3
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Homo sapiens	Homo sapiens
DPLQASDKIY NKERTRNIVK NNGKIYDOSKD AHHGQVSYIS GRRNRSTSTF CPAGTIGVST NHINAGDITY TVNNLLQPQA VARLSTEGNL SNKLGTEALS WSYSKRTWTG TWVGILLSLV AVFAALLHFF VDYRSYGTDK DNINYEDNRP IFHCVLQKKV TVRKQSESSF GCGGGGGGG GCGGGGGGGGGGGGGGGGGGGGGGGG	age taaatgrate atettgetae tgg tteteteate ttteaatagt aca ttegeaaaat aatgtgeeaa gtg aaageaette agaatttaaa aaa tacagtetag ttetaaaagt SAT PNVTTCPMDE KLLSTVLTTS P
GVYQSEHLFE KLPHRVDGTG SDIDLAVDEN YVVKSVYEDD NYHVVKSVYEDD NYHVVKSLED STTLRTTILS STTLRTTILS VEAREIMWFK KLKSGETAAN LNKLQKRERS ADNLLKTDIV IRVAFULYNN VFTVKHIKQS MAHVEVKHSD KYFYLVGYGM IALYKMFHHT TVIMAYLFTI TGASEQCQGY aatgacgaca catgacgaca catgacgaca catgacgaca catgacgaca aactatagt catcattcaa catgacgaca aactatcaa gggacttgt catcattcaa aactatgat catcagtttg aaccaaacaa aactatgat catcagtttg catcagttgt	yatt catctacatt tottcacago acaa aaccaatgag atcatgotgg tgta tttcctgatg tccagtaaca ttca aggtgaacca agtaggagtg atga tacatctgtg gcagtgaaaa PYSS HRMRFITNHS DQPPQNFSAT
YECVPYKVEQ TLTEYSSKDD EALINANYH WDIAYDKRSA YQYIAAVDYN RPSVKDISTT TTHLPSASSQ DPQGPDLSNC LLDVQLRNLT DQLRAATMLL HGSTIQLSAN VITAAINKEF TTNKTHTTCS FFRGLQSDRN EGVQLYIMLV IWSFIGPATL ALCLLGLW HCCSGKSTES LNREPYRETS atgagaagtc caaatgtta tactctgtta ggtattcac caaatgtta tactctgtta agcattattt cagcaacgga cttgctcttg tccacaatgt tccacacta acactagtt agcattattt cagcaacgga cttgctcttg tccacacta tccacacta acactagtt agcattattt cagcaacgga tccacacttg tccacacttg tccacacttg tccacacttg tccacacttg tccacacttg tccacacttg tccacacttg tccacacttg tccacacttg	ccctatcatg cctttcgatt tggaaagaaa ttgttcacaa tgcttagatc cagtcatgta cttcttttta gacgatttca ccaggatact ccctgcatga acttga 1.1 MRSHTITMTT TSVSSWPYSS YSVIFIVGLV GNIIALYVFL
ein- NM_005300	ein- NP_005291 d
25359 G Protein- Coupled Receptor GPR34	25359 G Protein- Coupled
413	414

ctgcaagagg tttatggtct

cccttaacc tacccgtgcc agagtcaatc tgcaagccat

atggaaagca ggctggagtg aggaggaatg tgtcaggagt gactcccaag ctcttggtcg gactgggctt taaggagcat gatttatgga ctggcttctt ggtcaatctt gactagatta

gtcatgcttc cttggaagac tttctcttct gccgaagaaa aactgaggat aacatttgct

Receptor GPR34		TLGVILCKVV LALGGFLTMI IGKNLLRISK WKEIVHKTNE PGYSLHDTSV	GTLEYMNMYI ILTLKKGGHN RRSKEPNSGK IMLVLSSENS AVKIQSSSKS	SIILLGFISL STMCFHYRDK YATTARNSFI CLDPVMYFLM T	DRYIKINRSI HNAKGEAIFN VLIIFTICEV SSNIRKIMCQ	QORKAITTKO FILVVMFWLI PYHAFRFIYI LLFRRFQGEP	SIYVCIVWM FLLIILSYIK SSQLNVSSCY SRSESTSEFK	
G Protein-	AX068267	gttctcagat	cggcttctcg		tcagttctca	ctgggcccct	tggactccca A	Homo
Coupled		tttcaaaaat	ggagaagaca	gatcacagcc	actgaccagg	gaccgtggga	ggtgccacgt	sapiens
Receptor		gatggtgagg	catcatgcta		ctctgacctt	cctgctgggt	gattctccac	
Ls30698	•	ctctgggctg	ctagatctac	ttcctggatg	ccgtgaagat	cctcatgtat	gaaaatgaag	
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	•	agatccaaga	ttcacctaaa	aagctatagt	gaagtggcca	accacatcct	cgacacagca	
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		ctttgcctga	tcattgaagc	cacagtgtgg tecegggtgg	tecegggtgg	ttgtgacgga	gatatcatac	
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tegtettea gtgggateetg gtgggagtgg teatggtacg tgattatttt teettatttg tttaetgeac gattetggtt	KSYSEVANHI LUTAALSUWA GEFHINHTSE KSINFSMSMN EAHLQNVSIP RQVNGIVLSV CQMMLDIRNE VKCRCNTTSV ATVWSRVVVT EISYMRHVCI YLSIFFWMLF KALLIIYGIL MRPEACWINW DNTKALLAFS SKNVAILTPI LGITWGFGIA SKNVAILTPI LGITWGFGIA RMRMSSLKGK SRAAENASLG	agaaaatcca cttccctgcc acctgtttca acttgaaagac gaaatcaaac caggaataac gcaaaattac caaataacga gacgggccag gaaagaacac ctttatctca ttatatttgt ttcacatta ggaataaaa ctcataatga cgctgacatt tacttcaagt ttattcctg tccatcgtg tccttgggct ggggactct ggatgtacag atcatggct ttttgtcttt aatatccatg actgctcaaa acctatgga gccatatca gccatacaa acctatgga atatcatga acagacacaa acctatgtga acagacacaaa acctatgtga acagacacaaa acctatgtga acagacacaaa
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tagggccctg tcagtccctc ttttaggggt ctactttgga aagagaactg tagcttctag ttactgtttg aaaatactat ctttcac	CSHIRSKIHL IVNELFIGTK AFPTLGAILR SKKRRWDEKA LSLVLCLIIE VAVTFFSHFF SQDVVIIMRI IMDHKIRDAL	atgetttace gagacaagaa cacaatgaaa aagtgtttee cttgacgett catgeagage gttgacette ggttgaacette ggttgaacette tgacette caagecatt tgtttgggtg aacagaggae tactgaagae tacttacet caagecatte
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ccctggccag ctgctctgtg acagtgaggg tggcaggagg atagggaacg agaccttgag aaaaaaaatt ttgtgtatatat acataaacga	MKWKSQAIMI LLQSVNLFAR QIPRQELRKI KFKEKINKTR KSWTDKVLDY NVWFIIGSHF MWVIGFAIGY LIVVLVVAVN HIIFALLNAF QG	gggcacgaggg tcaaagctta gtgaatggac cccacgcctc aactgaagaa caagagagtc aatgaatttg ttgctgaatg ttctatctca atagtccatg tcagttttgt gatcgctatc acgaaggtt acgttttgt gatcgctatc acctgacaa cctttggggg gtgctgggaa aggcaattca
	CACZ / Z3Z. I	NM_023915
	G Frocein- Coupled Receptor Ls30698	G Protein- Coupled Receptor GPR87/GPR95
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	410	417

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422 36534 G Protein-  Coupled  MECOPTOR NO.00369.1 NP.00369.1 GOGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	Homo sapiens		Homo sapiens
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36534 G Protein- Coupled Receptor GPR49 and Polytropic Retrovirus Receptor (XPR1)	8	ERGESVKY STMGYMVA PVAFLSFS WTRSKHPS VAFVPCL	ν
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	Homosapiens
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gatcagctga agtttggagc ggaatttgcc cttcgcttca gttaatgctg actcacaaag tatatcatact tagtaacta togattacct ccacttgagg gatcagactc aatcaggct tccaaggct tccaaggct tccaaggct attttctga agctcttccg ttctggtttt gatacctac ttttggtttt gatacctac aggatgtttt gatacctac tttttggttt gatacctac tttttggtttt gatacctac tttttggtttt gatacctac tttttggtttt gatacctac tttttggtttt gatacctac tttttggtttt gatacctac tttttggagg auttggtttt gatacctac ctatcagg tttttggagg auttggtttt gatacctac tttttggtac aggatgtttt gatacctac ctatcagg gcccattcag aggatgtttt gatacctac ctatcaga auttggtaca auttggtaca auttggtaca auttggaggagg auttggaggagg auttggaggaggagg auttggaggaggaggaggaggaggaggaggaggaggaggagg	VTDEDTVKRY STGVTTLRQR KKHDKILETS PPLGAAQPAP FLFLGINTY VIPTYVFLA NSLSVILMDL IQCLRRYRDT SSCYTLIWDL STTLLPHSGD LLEQMMDQDD
ctggctggcg ctgcttctac agaagaatca tcctcattta cctttacagc gattgtcttt gggtctcttc ccaaaaagcc tgtctttgcc tgtctttgc tgaacactcg agacgcagat cggctctcaaa cgctctctaa ttcctcgac acatttccg tttcttttc ttcttctttc tgccaatcag agaagacata aaaggacata gatactttac ttcttcttttc tgccaatcag agaagacata aaaggacata gatacttttc taccaatcag tttctttttc tgccaatcag aaaggacata aaaggacata gatacttttc taccaatcag tttctttttc tgccaatcag aaaggacata aaaggacata aaaggacata aaaggacata aaaggacata aaaaggacata aaaaggacata aaaagacattt aaaaggacata aaaagacattt aaaaggacata tgatactttttttttt	SAQDQAPSVE LQSSLDAQKE LNFTGFRKII RQKAMKRLRV IYRGGFLLIE LLACFFAPIS FADFWLADQI VQCIPAWLRF FYLWIVFYII FAWTIQISIT VAPLNADDQT DDEANT
ttgctgattt caaataatta ttcagtgact cgtttgcag ctttacctgtg agatggactg ttgtatacc ttgtatacc tcattgctac gcctggagaa gggcccccc tcattgctac gggcccccc ttacaataa atgatgaaga atgatgaaga atgatgaaga atgatgaaga ctacaataac actgtgtttc ttacaatca ttacaatca ttacaatca ttacaatca cagacatta cagacatta accaataac actgtgtttc ttacattaat accaataac actgtgtttc ttacaatca cagacatta cagacatta accaataac actgtgtttc ttacaatca cagacatta cagacatta accaataac actgtgtttc ttacattaat accaataac actgtgtttc ttacaatca cagacatta cagacatta accaataac cagacatta	QYEAFKDMIY SAQDQAPSVE QRRFATIQNE LQSSLDAQKE SLILLQNYQN LNFTGFRKIL VVTNELEDGD RQKAMKRLRV TDRSIWPLIR IYRGGFLLIE GFLGILWCLS LLACFFAPIS VFTAPFHKVG FADFWLADQL HKYTYGVRAI VQCIPAWLRF ERGHSDTWVF FYLWIVFYII CAIIEDVILR FAWTIQISIT GEFRAVRDIS VAPLNADDQT RDTKVLIEDT DDEANT
aaggtagget atggacettg egggecattg egggecattg etcatggtgg atggtgttet tgggatetea atggtatete acttettee gacatetetg eaggatgatg tetteetaet aacaaggagaa aacaagete aacaaggagaa aacaagete tttteetaet ttteetaet aacaaggagaa aacaagete aacaaggagaa aacaagete aacaaggagaa aacaagete aacaagatgatg tttteetteet ttatggattg aacaagete aacaagete aacaagaa aacaagete aacaagaa aacaagete aacaagaa aacaagete aacaagete aacaagaa aacaagete aacaagaa aacaagete aacaagaa aacaagete aacaagaa aacaagete aacaagete aacaagete aacaagete aacaagete aacaagaaceetta	TEYSERIAGY TEYSEKLAEA LKLAFSEFYL INQLISETEA LVLAAVFKLE LSHQHLFEIA RFWLLKLLFR PNNSEESGIC AFAALYSTHK IVYPQKAYYY RLENEHLNNC
ccccttccat agtgatactg tgaaagtaag atatggtgtg gcgccgatat cacacattc cacacacttc cacattcctc agaggatgtg gttgcctcat atttgtgtgg atttgtgtgg atttgtgtgg acagagatcat acatatttca acatattttca acatagtatc acatagactc tctattttca acatagtatt acatagactc tctattttca acatagtatt acatagactca tctattttca acatagtatt acatagactca tctattttca acatagtatt acatagtatca acatagtatca acatagtatca acatagtatca acatagtatca acatagtatca acatagtatca acatagtatca acatagtatca acatagtatca acatagtatca acatagtatca acatagtatca acatagtatca acatagtatca acatagtattca acatagta	METATILISAL TCEKELAKIN ERVQHRNIKD EVAPFYTCKK CGIFIVLNIT LIFELNPRSN NPTKTFYYKS LKWDESKGLL GKYSTTFFWV AGENTFIREE VERRFVWNFF
	NP_004727.1
	Xenotropic and Polytropic Retrovirus Receptor (XPR1)
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Homo sapiens	Homosapiens
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eggecgeggg agececaegg ctgetecagg egeatecaec gaacagette ggtttettaca gggectecgg gaggeagaag gtetggaag gaggeagaag caaaccaggg etecegaage ctctgcagec ageaagecca caaggacetg gtgttgggec ggtgategge teteaggegg ttcagtgect eggeaggagg etgateget eactggeag etgeteage tggecgag etgtactac aactactact catgactac aactactac catgactac aactactac catgactac aactactac catgactac aactactac catgactac aactactac catgactac tggecaec gategtgec atcatgtec catgateat tggacaca gategtgate catgacaca catgateat tggacaca gategtgate catactact catgateat atcatgtec catgactac agagactac gategtcate tgcaacag gategtcate tgcaacag catgacaa gateacaaa cacagacaaa gtcaacaaa gtgggacaag gaggacaag gaggacaag gaggacaag cattggaag cattggaag catggtcacaa gtcaccaaa gtcaccaaa gtcaccaaa gtcaccaaa gtcaccaaa gtcaccaaa gtcaccaaa gtgggaagac cattggaag	GEKRADIQLN FODCPLQKNS PRKVDGGGTS SLNFHNCNNS ILCRNTYSVF LLFITIALIG ILFIVDLICC IAILLQVAVP
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AX073578	CAC28410.1
Lung Seven Transmembran e Receptor 2 (LUSTR2)	Lung Seven Transmembran e Receptor 2 (LUSTR2)
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	Ното	sapiens																																					
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Homo	sapiens
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	LNDVTLSLLP
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NP_005747.1	
G Protein-	Coupled
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aaagctgaaa gatcattgca acggccacac, tggtcttctt

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agtccaccga acctgttgtg

atcatcatag tttctggtcg catttacaag cttttcagac tttctcctca ccctacctac

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TLOTLSETYF IMCATAEAOS

SELKRSELNK

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STVPONOHIT

GEIMFOYDKE

sapiens Ношо K cctaggctgg gagcctggcc tctgtctctg ccaccagaag ggtcagagcc caagatggtg tttctgttc gatgaccaag ctctcaqcaq cactggctga ataactcacc tgggctttca ccactccagg ANVNTTSAPP QVSLETQAPE PDDFCWINNN SIAGLTFLLG LCCGKLRLAE SGNGNASTER catctgaaca tcactgaatg aatgatggct agtgacaagt cttctggga gactaccact SPIGEIQPLS DMLAPLAORL YVISSSVANL RRLNETICTC EKIRRDYPSK LEAFHMYLAL KLQCDLQDPI tgtgtactac PCPSSPEELG TEVAQDPANL PSLENLSLIS WSDNGCSVKD QRKTSIQDLR ENVRKOWRRY LVNNDCSVHA ctcccgcggt gttgctggcc gcataaagtt cagtagcctc ccgtacaaag aaagaaacag agtaaagtct gaaagtcctt ccagaagaca agagaaatcc catcagcact tttcataaat gccttggaaa agaattgcca tgacagctac ttcttctt atttaaaatc ccatgcaatt tggcactggc gattgtcatt DYSPVTHNVP SFSSPTVSAP QVSRLLHSPP SVTLVTYIAF FLLVSFTWMG GSYGKFPNGS RTSKRGSLHF ccttggtgtt gcagggatga getteageag geaaceagae agaagaatcc caatggcctt ggaatgatgt gctgggctgt ttgcactcat agatcttcat FFETPALFOD DLGRNGGRGG SSNSTNSTTL CNGKGRMALR tragectaga gtgaggtaag aggccatggg ttttctttaa MEHCCCSVRI PKATSFAEPP VSGTPPPVKA EPNLAGEMIN RVNASSENTT IGCGLSSIFL CISVAVFLHY LTISPDNYGL RIKKKKQLGA FIFIFYCVAK geteceeege gtttgctgca atgatgtgag tggtgaatgt gatgtgaatt actgtatttt cctatcgaag atctccagaa atcatcttca gtggattcaa tcatttcagt gagatcacag ttatacatct cgaaaacgac aagtctctt ttcatcacca aaagacaaaa TISSPMPQTH **NSSSSNSTÖS** QHMFNEKEDS gcactcaagg MEKALSLGSL MFIVVLVQLC FALFNTLQGF gcgcccgtcg actattggat AALERVKIRP VPRATVLSQV MELASRVQFN DELTVRCVFW OMMALTEITY ccaatgctgg gggtacatgg TSPSLALAVI WIALYKWOGL GVPAVVVTII ggcgctactc SLMINILPAHD caaggatgtg aatcctagac gttaccaaag cagtctttat ccttgatatt tctccccaaa tcatatcctt tcctttcacc ccagggette ccttctgat PAIDMPPQSE LNFSNTTISL VTLKHINPSQ **GPVNVTFMYL** GLKKQTVNQG ccggctgctc ccatcacctg cttcaaggat cctggatgaa tgttaaccct aagaagtaca tggggcagtg NNTMNACAAI PESSSOSIPV ISDLENQVLQ DLSRTSVLPA LLNLVFLLDS YILKECIVGW **FCVI FLLNVS** DVCLHDFTGK ggccgctctg VKVFNTYIRK NSDWSKTATN gaacaacat tttcttctta tcaccettt ctggtaccca aggagcctaa gaaagtctaa ataataatgg aaggccttta ttacattcag gagaaattcc ccatctggat tggcggccct acatctcctc tttgaaagg ttaagcacat VCLADHPRGP POPSAPIASS VQTDIVNTSS LKWDDIGLO NSIGTITLPS SHLTSFGVLL ILIQLCAALL ITWGFAFFAW NGVSFSVQNG ccgcgggcct tgggccgcgt cctttggctt agcctgaaga TLNCTFTIKL TVRNLTRNVT AVFYITWGY

GPR64

Receptor

**KIAA1624** 

AF376725

45937

Protein

Homo sapiens	Homo sapiens
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AAK57695	NM_012344
KIAA1624 Protein	Neurotensin Receptor type 2
45937	50847
430	431

	Homo sapiens	Homosapiens
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Homo
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Homo sapiens	Homo sapiens		
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	56923	57180
	440	441

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Homo sapiens	Homo sapiens
5 NETLLSWKTS RATGTAFLLL P 5 AVLLLTPLFV AFLTRQAWPL A PRLRSPALAR RLLLAVWLAA A FVLPFGLMLG CYSVTLARLR / AALAPPEGAL AKLGGAGQAA E GSGEARGGGR SREGTMELRT	agoggocogec tgggagecoge coctogocoge cgggaaccoge ctgtaacctae tgggagecoge gegtaaccogg cgggaaccoge ctgtaacctae tgggagecoge cegetagea gegeacecoge ctgtaacctae geoggtagea gegeagetocog gggacocogat geoggacogtagea geogacoggacog ctggagagea gggacoggacog ctgggagecog ctgggagecog ctgggagecog ctgggagecog ctgggagecog ctgggagecog ctgggggagecog ctgggggagecog ctgggggagecog ctgggggagecog ctgggggagecog ctgggggagecog ctgggggagecog ctgggggagecog ctgggggagecog gggggggagecog ctgggggagecog gggggggagecog gggggggagggagggagggagggagggaggggggggg
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MAPSHRASQV AALLGLPGNG GQAGCKAVYY LLLAVPAAVY GARWGSGRHG RAGTTALAFF	atgreecede ctgccggcga gccttcgccg ctgagcggaacc ggcgcggaaccg ggcgcagc ctgagcagc gaggccgca ggcagcagc gaggccgca ggcacaggc gggagccga ggcacaggc ggcacaggc ggcacaggc ggcacaggc gccacaggc gccacaggc gactcgcca agcttattaca ggccacaggc ca gacaaggc ca gacaaggc aacccca gagcaaac gaccaaac gaccaaac gaccaaac gaccaaac gaccaaac aactcgaac aactcgaac gacaaggca aaccccaa gagcaaac gaccaaac gaccaaac gaccacaggc aaccaaac gaccacaggc aaccacaga aaccaca aaccacaga aaccacacaga aaccacaga
NP_062813.1	MM_014246
Leukotriene B4 Receptor BLTR2	Cadherin EGF NM_014246 LAG Seven- Pass G-Type Receptor 1 (CELSR1/Flam ingo)
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SGEKGWLPPE GLOGPEVLLE SDSEDPSGKP ATSGGPTSFR RQCNRCDNPF EEFPRELESS FAVLMDISRR MRFYYVVGWG VLSAKVSCOR LRTDLGESTA CTLRVTITD PCENYMKCVS **PCGANGRCRS** PPGEYERPYC GERMANVIVD YLCECPLRFG KHLVTMTLDY TNVATLNMNN CHLNPCENMG SKGFDPDCNK GGTAQLLRRL ERPVLVEFAL NKVTYPPPLT EHYSFGVEAV PVPQFRIDPD QFLWDFYQGS NNPVGSVVAK VLVVQATSAP DPDVSDSLNY TDVSSNILNV FIALEIVDEQ **PVHNRQ FVGC** NDVRTAYQLI DDAGQEAVAL LFLSQLVFVI LSLDEOSSSY SLSIKAQDGG DADSGENARL ARDRDANSVI HTAHVLINVT RTORRLDREN PGHDSDSDSE GGAARLASSQ: PPEQRKGILK QCACKPGVIG ATQHTGTLFG SFHYLFAIFS AGWPDOSLAE PLDFEDVQKY GYPWHIQAV AVGSSVLTLQ GGLITLALPL DYKQEQQYVL AVTASDGTRS NARITYVIOD LILDANDNAP KDELELFVEE TGVIGCIPAH SDGIHSVTAF DVEVENVOND PFDDNICLRE ETEIDLCYSD LLIGGFHCVC YNGRENEKHD GHLGLPHGPS GGVPNLPEDF GGTCVNRWNM TRKEDSVLME LKNVKEDSEM MOGVRMGGTP GYLGINCVDA **PVCGPCHCAV** GSVGNAVRHC GSALLAPATR AAWEQIQRSE ARVPREDTIH APISRRRHP SEGAPLPRPL VACQCSHTAS HSIHKHLAVA TEVRNIDIGP AVIIINTVTS NTTFGDGPDM VCAELDREEV FYIEPTSGVI ELDFEVRREY GQPAAVPCPK SLVRMLRSNL LIWSFAGPIG GLLAVNRDAL SLMPRSCKDP KGDAVANHVP SWSDLNIIIS VPWYLGLMFR HSRTCDMATG DIFDKFNFTG ATLITESING SISGILDVIN QATVLENVPL LSANDEDTGE SPLLALFVEG VAAVLSTTKD VCKNGGTCVN ATQERNGLLL GTREGCAARR · NFCDGRRCQN DGEWHHLLIE WWGGASEDK VSVRRGFRGC CPPNSRCHDA WEDYSCVCDK YGPYCENKLD · LPCPRGWWGN ALQLVRALRS TRPGPGTERE NTPMVSTLVY CELLSRNRTH VESLHVYRML TYELRINEDA FOGGDDGDGD DINDNAPMFE QLSRDLDNNR PLEALMEVSV QEQIYLNRTL: LTTISTORVL IHPINGLRCR CPPGFTGDYC QVQYYNKPNI **QIHNSSGWIT** OKSDITILEI LINGDLRAMV YVTNKSNSFP SIDLIGPLIL AALLVAFVLL. GNVAGQEYLH REHETISLTE NEPIEVSSPE NPAPTPDFPF TIMAQDNGIP ASVEIQVTIL GDMRHFFQLD LPDFOILFNN DARSGRCANG GVSDGRWHSV AQGTQTGSKK SVMLSGLRVT LPCDCFPHGS AGIWWPQTKF RNETQVDGAR ADFHEDVIHS IVTANMILAV GGTGGWSARG DECWLSLODT LLLISATWLL LHLEDSATTR VRGSHGEPDA PARGAVHSTP NDNDPVFTQP DRPVGTSIAT SGPNGRLLYT PAGRRTTPQT SLRLPHRPII IYMSTFAWTL RGEYPPDQES VTYAAVSLSL CTWAILLHY IQKLGVSSGL DGVGAEEKWD ELHREEQGSH VSVQVLDVND FLGGGSAGPK NRFALSSQRG SSHYTVSVSE LVDQNDNPPV LENMSQEKFL LSSTTVLFRP EDFTGEHCEV TTTVAPKVPS VDMAGFIANN PQLFSGESVV EVSHGPSDVE GMLPGLTVRS DVDDPCTSSP GYVCECGPSH YYKLLAQDTC IYNGCPKAFE DLRAMNEKLS OGFDLAATOD VRRTYLRPFV PEEKEGPLLR LPERYDPDRR CVEWNHSLAV GLDPOGYGNP VSLLRTAFLL HLKGVLGGRK NAAIHYSILS TSVSITVLDV DYENQVAYTL ILQVSATDRD VDRGSPTPLS NAQIMYQIVE LLLDPATGEL RGQFFPSEDL SEVIFRGLRQ GKDIGNYSCA SLDSIVRDEG ASSHSSDSED VOATDRDQGQ HYRLVDTAST DHGSPPMSSS TYOLIGGNIR DANTHRPVFQ IFEDAPPSTS VAVYNLWALA IRANDPDEGP LVSRATVHIL **TEVOGNELRL** DMLTNSITVR TESALLPGGV VLRFDSSAPF REGGYTCECF EVITRSFPPO VOLTESAGET DCDTTMAVRF MRNLSVDGKN GKNCEQAMPH COILNNYLOF GMDONKADIG ALKVRVKDGC ACVRSPGSPQ TNGQCQCKEN AEVITIGCEV LFNCTTISEV GHVLQHESWQ EGYFSNVARN VSEPADFERP VI I YRTLGQL LEVEERTKPV ENGEVLPLKI GINQTENPFL IPAIVTGLAV KHHYYGKKGI HCVLNQEVRK RLKVETKVSV RPPLINSSGV SGTMYTMMEL

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	Homo sapiens
cagtgccage etgecetgte tgeageated tracectggage catgtggeec aaeggeagtt tracectgga ggagagaegg etgategeet tgggeectgge eggeagegg etgategeet tgggeectggg etgategeet etgategeet etgategeet etgategeet tggeectggg etgeteget etgategeet getgetggg etgeteget tggeeceget getgetgggg ecctetgggg ecctetgggg ecctetgggg ecctetgggg getgetggt etgategeet getgetgggg ecctetgggg getgetgggggggggg	EEGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG
atcecteaae cecaeaeaea ttettgegggtt gaetteetgg gagtggeaeg ttetteggee atcaecegge gtggeette geggeette geggeette cetaeaeaeg cetaeaeaeg cetaeaeaeg cetaeaeaeg cetaeaeaeg cetaeaeaeg cetaeaeaeae cetaeaeaeae cetaeaeaeae cetaeaeaeae cetaeaeaeae cetaeaeaeae cetaeaeaeaeaeaeaeaeaeaeaeaeaeaeaeaeaeaea	CCCCCTTCC CFRPINITLE VLTDFLGLLV YLGITRPFSR SGDVAFGLLF MVVASVCWLP FRRAVLRRLQ
	aacggggga MWPNGSSLGP SSFLTFLCGL LLGAAMASER SWCFLTLGAE VEMMAQLLGI
	NP_001051.1
	Thromboxane A2 Receptor
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Homo sapiens	Homo sapiens	Homo sapiens
accttttttt actatgacct tcagagccag A accetegeca ceaetgacet gractgectg ctggtcctggt gaagtatgag ctgaacctgt ggtcctggt gaagtatgag ctcaacctgt gcctctcaga cctggtgttc accactggg getggggcat gggagacttc acagcagcat cttcttcctg gtagtgagccag cttcttcctg atggctgtgt ggggtagccag catcctgtcc cttcttctgg gctgtgatta ttccgaactc accetttct tctggtgatta ttccgaactc accetttct tctggctgtc caagcgggat accetgttcc gctcacgctc caagcgggatca acttcttctcag cttactccag ctggggatcagttcggaccc agatcatccag ctggggtccc gttcggaccc agatcatccg gagctgcgag atctgccgca acttgcacaca acctgaaacaca acctgaaacaca acctgaaacaca acctgaaacaca acctgaaacacaacac	TLATIVLYCE YELSINGNS INLWYLVKYE P YHWGWYLGDF ICKLINMIFS ISLYSSIFFI MAVWVASILS SILDTIFHKV LSSGCDYSEL TLFRSRSKRR HRTVKLIFAI VVAYFLSWGP SEN	catccagage agraagagag etggggteeg A geacecagaa gottatetg tettttgggeet tagaacteaa caggecacet tetggaete tecatgggg accttggge attetttgggg accttggteet tettgteett tetactggeg tecattgtet tettgteett tetactggeg tecattgte tettgteett tettgateea tecatgge etcattgtet tettgteett ettegatea tecatgate tettgteett tettgggg etcatgge etcatggeg tecatgate tettgaaacetgg etcatcage etcateate etgeacetgg etcateate tetcatcate ceagtteagg etcatcateate tegaaacetge tegaagetget tettggggaaa accgtacte teacetggt gttggggaaa accgtacte teacetget tettggggaaa accgtacte teacetget tetctgggee teacetget tettggggaaa accgtacte tagaagecage teacetget tetctgggee tetaaaaca geaagteeta gtgggtegae etctaacatca tgtecteta gaecetgegggggaaaaaaaacaatta tgtecteta gaecetgegggggaaaaaaacaaag tegatgetee cagaccacaag ggaaatcacaa tecagtggg atataccaaag
agagagcacc acctttttt actatgacct gggtcattgct gggtcattgct accttggc gggtcatggt gggtcatggt gatttatcatc atcaacctgt gggtcatggt gatttatcatc atcaacctgt gacttagggattettetcc atcagacctct acagagatt ctacctgt gggtgacca atcattggt gggtgattactacggacc atggttgttctcgg gctggtgattactacagacc aactttctcgg gctgtgattactacagacc aactttctcc gattctcagg cttacctagg gctgtgattactacagacctc attacctagg gctgtgattactaccagacctc attacctagg gctgtgattactacagacctc attacctaggaccc agatcatccagacctc attacctagaccc agatcatccagacctc actacctaccgacctc actaccagacctc attaccagacctc actaccagacctc attaccagacctc actaccagacctc actaccagacctc actaccagacctc actaccagacctc actaccagacctc attaccagacctc	LUAGUSTONES COCCOCACOCACOCACOCACOCACOCACOCACOCACOCA	agtectgeat catecagage tetgtgaget gagacectga cteteggaaa tggaacteaa tgtggeectga cacaaggaag ccacaaggeag ccacaaggeag ccacaaggeag ccacaaggeag tetatggta tetatggta tetatggta tetatgate agececatg tecatgate agececatg tecatete eaactttgeat tecatete eagtgatege ctggtacge ctgcacettg tetacatea agtgatege ctgaaaacca tggaaaaggg aaagceatt ggtetetgte tettacatea agtgacecet gaaaacca tggaaaaggg aaagceatt ggtetetgte tettacatea agtgacecet gaaaacca tggaaaaggg aaagceatt ggtetetgte tettacatea agtgacecet gaaatcaca caacaaaacg caacaaacg caacaaaacg caacaaaacg caacaaaacg caacaaaacg caacaaaacg caacaaaaca caacaaaacg caacaaaacg caacaaaacg
atggagtect caggeaacce cogtgttgag accaggectgt gagettette teagectagt gacttettet tectecatat gectgttgt tectecatat accatcattga cetectgata cetecatat accatcatga ceatcatga ceatcatga cetecatga ceatcatga ceatcatga acaccatct accatctt geatcettet gactagtac teacettet gacacatctt accatcttet getacgttet gacacatcat tacaactte acctttet gacaacatca tacaacttea cettttet gacaacatca tacaacttea cettttet gacaacaga agttettet gacaacaga agttettet gacaacaga agttettet gacaacatta cetttagaa accttaaca acctatatatatatatatatatatata	TETYDLOSO INICISDLVF VVSPLSTLRV NLFFLLSLGI FRTQIIRSCE OAPSPASIPH	tgatgcctct tggatgcctct agagacattt cctcgctca aggatctcat gcctggttc aattcagaac gtggagtgac cggatgcttt agacagtggc cccttgccac gccttgccac gtgttgcttt agacagtggc gcacggcctc gcacggcctc aggatgcttt agacagtggc gcacggcctc agacagtggc gcacggcctc
(C NM_005283 atgga ccgttg gtgttg gtgttg agectg accat ccat accat acctg atcct tcat acctg atcct tcat tacat gtcttt tgctt tcat tgctt tcat tacaa	(C NP_005274.1 MESSG SLESS TIMTI TWYLT YNFTE	NM_006794 quagated agraph agra
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agccatcaac cagcaatggg caagtcatggg gctctggtgc tcgagccatg aaactctgcc cccaagtcat tggtcagagc attgccaat tgacagccct attgccaat gatcttatgt gatcttatgt gatcttatgt gatcttatgt	VIFCLGSYGN SSIPDAFCFT TSFTLATLAT KNAQVRKCPP SPNQLVTPAA SFILYQFELF GKGNLEVNRN SSTPINTRL	
agecgactec agetegtate ttggtacagg tgateattgt ttggtacagg tggttetete ggatttacte ttatattttt gcagacaaaaa agactegact aaatectec atcatgaaac ttgtggac agactegac tetgetggac agettgtgg tetgetggac agettgtgg cettactaca acettttgg aatgacttag tgcaggaata taaagtcatg gaggetatag taaagteatg gaggetatag ttattetaa etgagaata ttattetaa etgagatea cagtattggt tttettteat gacatettaa gatttgatea	SOEGNSTSLO EGLODLIHTA TLVTCTFLLA LHRLRWVLGK QPNRTASFPC TVLLTLLLLWA KAILSLYVVD FTFCVAVVSV SYIMIAQTLR GDPIQCAMPA LYRNQNYNKL QHVQTRGYTK VTCVIIVLSV LVCCLPLGIS LVQVVLSSNG AGLRRKVLWC LQYIGLGFFC CKQKTRLRAM FYDDACGPSN SYESMVSPKI SAGHQHCGQS	sindmining Nouveelbar taggedtyte eteteceted ctgtecaagg tetececagg cageaceaag teaeggeea tgatggtege egeaatggee ttggggeate gtectagaaa geteaetete egatecteg tacteagtte etetteetee categgactg gaegggagea categgette teetteetee gaageceett teetteetee categgtte etetteetee categgette etetteetee categgette etetteetee categgette etetteetee gaageceett teetgettgg tgttateget attgaatata tgtateget etetgettgg tgtateget etectgtegg tgtateget etectgtegg tgtateget etectetee
	SOEGNSTSLO EGLODLIHTA TLVTCTFLLA LHRLRWVLGK QPNRTASFPC TVLLTLLILUMA KAILSLYVVD FTFCVAVVSV SYIMIAQTLR GDPIQCAMPA LYRNQNYNKL QHVQTRGYTK GTCVIIVLSV LVCCLPLGIS LVQVVLSSNG AGLRRKVLWC LQYIGLGFFC CKQKTRLRAM FYDDACGPSN SYESMVSPKI SAGHQHCGG	
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	452 130	453 133

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133117 G Protein- NP_003970.1 Coupled Receptor RAIG1 152198 Tachykinin NM_001057 Receptor 2	tccattgcca tctgggtggc tatgttagtc ccatcctcag tatgttagtc ccgagttttg gaggatgctt tctgtaaacc tattccacac atttcaacc tattccacac atttcaacc gcccacgctt ggccgagcca gtgggcgaaa tcttgagtct tccctcccag cctcaaccac cagttcttag aggcgctgta taagtgggag tctcaagcac cagtctttag aggcgctgta taagtgggag tctcaggca cctcgaccac ctgtgctcaa acaggatctt gctctgtcac cctcgaccac ctgtgctcaa aggcgtgagc cacagctccc aaggcttggt catctgaggt tcacagttggt tttgtgagg agcaaaagc tctttgtgagg agcaaaagcc tctttgtgagg tcacactctc cacccttct cacccttct tcttgcact cacccttct tcttgcact cacccttct tcttgcact cacccttct tcttgaaatc ttaggaatttg tagatcattc gagagatttg tagatcattc	LGCKEYRE FLLGVLGIFG LLVILGLAVG TFLMSSFTFC ANGWVFLLAY FTGNTLAY	grgacattot cattgaagec cagecttete catgeceage tgetggtage egtgaegggt tgegeacagt caccaactae cettcaatge egecttcaac cettctgeta ettceagaac tgaeegecat tgetgeegae cageteceag caccaaggeg
133117	gatgctcctc tgaccgcagg cctgttggag ttatcctgtt gaacagacc catccacgg cagctaactc tcaaagggat acagtttgcac atactccttt gttttttgaz ccatggatgac ccatggatgac ttacacggatgac gagcaaaaa ttgctgcac ttactcttaa gagcaaaaa ttgctgcac catcaccc ctcttaac gagcaaaaa gagcaaaaa gagcaaaaa	<b>-</b> :	
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ccacctcgtg cagcgtcatc caacctccgc gacgtttgcc gacatctac gagctctacc gttccggctt gctgactccc gttcatggct ggatggatca aatttga NAIVIWILA LFPITAMFVS TVTMDQGATK GHQAHGANLR GHQAHGANLR	gaatgaggeg cggacttgct ttcaacgcat ttgagaactat ctatagatgt ctcacataga agctccccct tgaccaaagt tgaccaaagt tgtacaacaa ctgtttacct tatacagtgg aaggcctgga cactttcctt gtgcttttaa gcagtatgca aggaatatgca aggaatatgca aggaatatgca aggatatccat ttggttttgga
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ggcaagacgc gcggtgatgt ggacatcagg accatggtga accatggtga accacaggt accacaggt accacagg tgtcacacta ggggaggcgg ccaccaaaa WQLALWAPAY FVYASHNIWY VIAGIWLVAL AVWFVAYSVI TKEDKLELTP PTKTHVFI	•
agacagcggg cctgccgctc gtttgtgaag cctctacttc agtctacctg ctgctgtctc ggtcacaccc agtcacagg ggctaccagt tttgcttgc Tttgcttgc Tttgcttgc TCTAAFNAFN PRLSAPSTKA PRLSAPSTKA ICWALYFLPL ICWALYFLPL SIWFGYGILA GIWFGYGILA	
cctggcccga tcatctactt tctggaggcg ccaagaaga tgccctacca tcatccagca ccatcatcta gctgcccatg tctccacgag cccctccga ttgggtatgg NISSGPESNT FIVNLALADL FYMALVHPFQ GKTLLLYHLV TWVLVVLTFA NHRFRSGFRL	
tgcgtggtgg gtgatcgccc ggcctcacgc catctgcagg atctgcagg tgccacaagt atgtacaatc gccttccgct acgacctccc ggggacacag ggggacacag IYSMTAIAAD CVVAWPEDSG HLQAKKFVK MYNPIIYCCL GDTAPSEATC	cogetecegy atteggagg accetaggg accetagggag ceceagteat gactetgeag aatteggaat cetaaagtte ttattecact cectgtgaat tggetttact aaacaagaat accaagettg gcacetgaag gagttteett gaatcagaag gagttteett gaatcagaag gagttteett gaatcagaag gagttteett gaatcagaag gagttteett gaatcagaag gagttteett gaatcagaag gagttteett gaatcagaag gagttteett
NP_001048.1	NM_000369
Tachykinin Receptor 2	Thyrotropin Receptor
152198	152201
4 5 6	

	Homo sapiens	Homo sapiens
tretgeatgg tratecated actgtetttg tatgecatea attgecatea agtagetatg geatatattg geatatattg catgtgaaga aaaattgeca teattetatg atettgetgg tteaceaagg cyccaggete gttaaaaag	taa tagtttettg aatatgeatt RVT CKDIQRIPSL PPSTQTLKLI P YNL SKYTHIEIRN TRNLTYIDPD KDA FGGVYSGPSL LDVSQTSVTA SYP SHCCAFKNQK KIRGILESLM KEK SKFQDTHNNA HYYVFFEEQE CTP KSDEFNPCED IMGYKFLRIP SYD STGMWYILLI ASVDIXTHSE	YAITEAMELD AYIVEVLTIN SFYALSAIIN ROAQAYRGQR QTVL tggattgaac tcggttatc ttacggttatc ttacggtgct gctctactcg aataaactgc tgatctgctt gctctactcg aataaactgc tgatctgctt tgatctgcttc
ttgtcctgct gcaacctggc acctcacac gcaacacggc tcatcacctt gcctcaggca tgcttccttt ccgagaccc tcgtcatcgt accagggga tcattgttag accattgt atccattcct gcaagttgg	aggcc aaatctcaga agagtatatg aatgg taggggaact tacaaaataa. PRDLG GMGCSSPPCE CHQEEDFRVT FOLKW FPDLTKVYST DIFFILEITD AFNGT KLDAVYLNKN KYLTVIDKDA NTWTL KKLPLSLSFL HLTRADLSYP NALMS PLHQEYEENL GDSIVGYKEK TLLQA FDSHYDYTIC GDSEDMVCTP	TVEASELSVY SSYAKSELSVY SSYAKSICL KIAKRMAVLI FTKAFORDVF LIENSHLTPK CaCaagctga atgctgtcca accaccttt gggggcccaac atgctggtcg ctgctcaac ctgctcaac ctgctcaac
	aaccccaagg aagcaaggcc cactacacta ctcacaatgg ccaatcccat 50.1 MRPADILQIV ILLDIPRDLG ETHLRTIPSH AFSNLPNISR ALKELPLIKF IGIFNTGLKM TLKLYNNGFT SVQGYAFNGT LPSKGLEHLK ELIARNTWTL CNESSMQSLR QRKSVNALNS DEIIGFGQEL KNPQEETLQA	YNHAIDWCI INVGGWVCCF HVKIYITVRN ILLVLFYPLN VQKVTHDMRQ caggactgcc ttccccagta acgagagcgg aatttgacgt tctttggttt agtgcttgac cctcccatt agtgcttgac tctttggttt
	152201 Thyrotropin NP_000360 Receptor	C-C Chemokine Receptor 2
	458 152201	152245

	Номо sapiens	Homo sapiens
gettetgtec eggsecttatt etggtectge eggtgtegaa gtttacttte ttetteggec gagactettg aagttcagaa caatggggage taaagggaage taaagggaage taaagggaage taaagggaage taaagggaage taatggggage caattecteag aagttecaage tagtgggggte aagtgecaage tagtgggggte aagtgecaac catctgecac catctgecac catctgecac catctgecac	aaaattag LVFIFGFVGN P AMCKLFTGLY ASVPGIIFTK RCRNEKKRHR ETLGMTHCCI	AAGCCAAGCT GCCCCAGCCA GTTAGAGGGC TCTGAGTTAGA GTTGAGTTAGA TTCTTGAATT TTGCAACTGT AGGAGTCCTC CTTGAGCTGC
atggagaca agtgtgatca ctttactaaa tgccagaaag atggaataat ttccacacaa catggtcatc tgctactcgg gaggcataag gcagtgagag tccctataac attgtcattc tgaaagcacc agtcaactgg ctgctgttctc cgaaagcaca agtgttcttc cgaaagcaca ggagacagtg aatccatca gaaactcaa ggaacctcag gatggagtga tatataacaa caaacttcaa ggaagctcctgatgtttcttcactc aaaactgagtgaagctcctgaagagaaga		
tcacctttgg ggt caggaatcat ctt ttccacgagg atg cgctgctcat cat acgagaagaa gag tcttctggac tcc tgataactg tga ggatgactca ctg ggtactcac ggg tccaacatg tct caaggtgcca gga tccaacatg tcttcataat ttc tcttcataat ttc tcttcataat ttc tcttcataat ttc aaggctaatgga agggctagaa agggctaatt tca tcttcattaat ttc tcttcattaat ttc dgaggttgaa aga agggctaatt tcc tcttcattaat ttc cattatttaa cct gtagttttga aat		
	NP_000639.1	LG5459
	152245 C-C Chemokine Receptor 2	99 Interleukin- 8 Receptor A
	460 1522	461 152299

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	gcttcagtta	gatcaaacca	ttgctgaaac	tgaagagac atgtcaaata	atgtcaaata	ttacagatcc	sapiens
	acagatgtgg	gattttgatg	atctaaattt	cactggcatg ccacctgcag	ccacctgcag	atgaagatta	
	cagcccctgt	atgctagaaa	ctgagacact	caacaagtat ,gttgtgatca	gttgtgatca	tegectatge	
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	cagggtcggc	cgctccgtca	ctgatgtcta	cctgctgaac ctggccttgg	ctggccttgg	ccgacctact	
	ctttgccctg	accttgccca	tctgggccgc.	tctgggccgc ctccaaggtg aatggctgga	aatggctgga	tttttggcac	
	attcctgtgc	aaggtggtct	cactcctgaa	ggaagtcaac ttctacagtg	ttctacagtg	gcatcctgct	
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	ccagaagcgt	cacttggtca	agtttgtttg	tcttggctgc tggggactgt	tggggactgt	ctatgaatct	
	gtccctgccc	ttcttccttt	tecgecagge	ttaccatcca	aacaattcca	gtccagtttg	
	ctatgaggtc	ctgggaaatg	acacagcaaa atggcggatg gtgttgcgga	atggcggatg	gtgttgcgga	tcctgcctca	
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	ttccaacctc	tgaaaaccat	cgatgaagga atatetette teagaaggaa	atatctcttc	tcagaaggaa	agaataacca	
	acaccctgag	gttgtgtgtg	gaaggtgatc	tggctctgga	caggcactat	ctgggttttg	
	gggggacgct	ataggatgtg	gggaagttag	gaactggtgt cttcaggggc	cttcaggggc	cacaccaacc	
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	caccatcatt	cccgttgaac	gtcacatctt	taacccacta	actggctaat	tagcatggcc	
	acatctgagc	cccgaatctg	acattagatg	agagaacagg	gctgaagctg	tgtcctcatg	
	agggctggat	gctctcgttg	accetcacag	gagcatctcc	tcaactctga	gtgttaagcg	
	ttgagccacc	aagctggtgg	ctctgtgtgc	tctgatccga gctcaggggg	gctcaggggg	gtggttttcc	
	catctcaggt	gtgttgcagt	gtctgctgga	gacattgagg	caggcactgc	caaaacatca	
•	acctgccagc	tggccttgtg	aggagctgga aacacatgtt cccttgggg	aacacatgtt	ccccttgggg	gtggtggatg	
	aacaaagaga	aagagggttt	ggaagccaga	tctatgccac	aagaacccc	tttacccca	
	tgaccaacat	cgcagacaca	tgtgctggcc	acctgctgag	ccccaagtgg	aacgagacaa	
	gcagccctta	gcccttcccc	tctgcagctt	ccaggctggc	gtgcagcatc	agcatcccta	
	gaaagccatg	tgcagccacc	agtccattgg	gcaggcagat gttcctaata	gttcctaata	aagcttctgt	
	tccgtgcttg	tccctgtgga	agtatcttgg	ttgtgacaga gtcaagggtg	gtcaagggtg	tgtgcagcat	
	tgttggctgt	tcctgcagta	gaatgggggc	agcacctcct	aagaaggcac	ctctctgggt	
•	tgaagggcag	tgttccctgg	ggctttaact	cctgctagaa	cagtctcttg	aggcacagaa	
	actcctgttc	atgcccatac	ccctggccaa	ggaagatccc	tttgtccaca	agtaaaagga	
	aatcctcctc	cagggagtct	cagcttcacc	ctgaggtgag	catcatcttc	tgggttaggc	
	cttgcctagg	catagcctgc	ctcaagctat	gtgagctcac	cagtccctcc	ccaaatgctt	
	tccatgagtt			tttccctcct,tggagaacag	tggagaacag	ggccctgtcg	
	gtttgttcac	tgtatgtcct	tggtgcctgg	agcctactaa atgctcaata	atgctcaata	aataatgatc	

152299 Interleukin- NM 8 Receptor A

	Ношо	sapiens					Ношо	sapiens																		Ношо	sapiens					Ното	sapiens						
		TLPIWAASKV NGWIFGTFLC KVVSLLKEVN	HLVKFVCLGC WGLSMNLSLP FFLFRQAYHP	FIVPLEVMLF CYGETLRTLF KAHMGQKHRA	ERR NNIGRALDAT EILGFLHSCL	SYT SSSVMVSSNL	att tgttgttgag gaacccacga A	aca toggcaaato occatogtgo	tga gaatgggatt ctcctctggt	cta catcacccac ctgtctatcg	-	atc agtgacttt ctgtttggct	igga gaggtgeetg teagteettt	igte ggeattggte tgtgeeette			ccagcaccat cttggtcgtg aagatccgga	agt catcatggtc accatcatta	tcctttacct gctgtactat gagtattggt	tgctcttctc,cacaatcaac agtagcgcca	gagattcaag	aaatgcaaccitcggcgccag aaagacaatt	aagaactgtg agggaagttg tggataaaa	stat gacttaagta tctcctaaat	stac'taattaatga tgaaa	WIM; SISPVGFVEN GILLWFLCFR P	HYYTIVITSV		VVKIRKNTWA SHSSKLYIVI MVTIIIFLIF	INSSANPFIY FFVGSSKKKR FKESLKVVLT			ggcggatccg	ccgacctcct	gctggtacct	actgcagcac	ccgtgcagta		aacacgactg.agcaggtcag aagtggcaat
		LALADLLFAL TLPIWAA	HATRILIOKR HLVKEVC	<b>VLRILPHTFG FIVPLFV</b>	VLLADTLMRT QVIQESCERR	AMHGLVSKEF LARHRVTSYT	gggtcaaacg tgacatcatt	gcctcagtcg ggaatgcaca	tececaging gottigitga	agaaatccct tcactgtcta	tgtattttca tcttgtctat	tacacaattg tcacattatc	ctgacggcca ttagtgtgga	categeeeca agtaceagte	gtgaccacca tggagtatgt		atgctggtgt ccagcac	tcctccaagc tttacat	cccatgagac tccttta	cacatttccc tgctctt	gtgggaagca gtaagaagaa	ttcaaagatg aaatgca	actgtcgtct aagaact		atcccatatg, catgagatac	RNASVGNAHR QIPIVHWVIM; SISPVGFVEN			PLMLVSSTIL VVKIRKN	LLFST	VETVV			cctgctgagc ctgacgctgg					tcaatacttg aacacga
atgcatgctg	DEDDLAFTGM	RSVTDVYLLN	ISVDRYLAIV	LGNDTAKWRM	FLLCWLPYNL	NFRHGFLKIL	cctcatggat	tggcaggaac	tatgagcatc	ccggatgaga	actgctcttc	tggccattac	cctctatctg	gtaccgatgc	ttcttgcttg	ctctcggaat	cacgccctc	ggcttcccat	cttcgctatg	gaacctacac	ttacttcttt	gaccagggct	cacagttgag	caggtcattt	agaacatctc	VEEPTNISTG	THLSIADISL	_	. IAILSFLVFT	YYEYWSTEGN	ROKDNCNTVT	actggaagag	ccaacctcct	f tgcacatcct	tcaagatcat	tcacgagttt	gcatcgagcg	tgtatggagt	tgatcatcgt
acaggaatga	L MSNITDPOMW	MLVILYSRVG	FYSGILLLAC	NNSSPVCYEV	MRVI FAVVLI	NPIIYAFIGO	cctgaggcct	acatctcaac	actgggtcat	tcctgtgctt	cagacatctc	agctttcttc	acaacacggg	accccatctg	tgtgggctct	aagagagtca	tectggtett	agaacacgtg	tattcctcat	cgacctttgg	accetttcat	aagttgttct	gtaatacggt	tggtggaaca	gtgatacaga	1 MDGSNVTSFV	MRRNPFTVYI	YLLTAISVER	RNDCRAVIIF	AMPMRLLYLL	RAFKDEMOPR	atgctgccgg	ggcctccctg	cctgcacctg	ctgctgccct	gtctgcgccc	gcgggcatca	cgccggcctc	tgcaccatcg
	NP_000625.1						NM_002377																			NP_002368.	1					NM_005306							
	152299 Interleukin- NP_000625	8 Receptor A					158822 Mas Proto-	Oncogene																		158822 Mas Proto-	Oncogene					159152 G Protein-	Coupled	Receptor	GPR43				
	463						464																			465						466							

Homo sapiens	Homo sapiens	
aaccagttgg acgtggtgct gcccgtgcgg cccatggcag tcaccatct ctgctactgg cttgtggggg gcccgagcc ttcctggtgt gctcggacc ttacaacgtg agccctggt ggcggtcaat agccgtggtg ctgctcttct attctcttc ttcagtggtg ctgcggaatc agggctcctc ctgttggga aatgaggaca 'ggggtgtgggg tcaaggagaa tag AFVGRIRQPQ PAPVHILLS LTLADLLLL PSSIYCSTWLL AGISIERYLG VAFPVQYKLS NTTEQVRSGN EITCYENFTD NQLDVVLPVR LVGAQRRRA VGLAVVTLLN FIVCFGPYNV LLFYFSSSVV RRAFGRGLQV LRNQGSSLLG	cccggccatc gcccgctgg tgcgccgcc A ccgcggctc agggcagacc tgggcccgc tgggcccttg aggaggagtg cgcctcgc tgggcccttg aggaggagtg gaatgagacg tgagctgcgg cccatccatcca tgggccat gtagttgtct cctccatcca aggccgcat gtagttgtct cctccatca aggccgcat gtagttgtct agcagccgc tttttacgt gttctacgt tctgtgaaga tcgccacct tctggtcgca ccatgcac acagctacc ggaactacat gccttacgt tctgtgaaga tcgccacct tctggtcgca acagctatc gacagcagg gctgtaaggc acattcatat tcaaagactt ggccttacttc gacagcggg gctgtaaggc accttacctg ttttccaat tggtggagg cctctacctg tacaccctgc acacctgc acctcactt gacagcggg gctgtgaaggc actcacctg tacaccctgc acctcacct acgccagagacatt tggtggaaggcacc atctcacac acctcactt aggaacccaa acatcatct cagaacatt tcgtgggggggggtttttgtgggaaggtgaagttgggggggaacccaa ataccggcaa ccgtcgggaggtttccatgt aggaacccaa ataccggaa acccagggaacccaa ataccggaacaccaa ataccggca aggtccaagggaactttccatgt ctgaccacca agaaccccaa ataccggca aggtccaagggaaccccaa ataccggca aggtccaagggaaccccaa ataccggca agacccaagggaaccccaa ataccggca agacccaaggaaccccaa ataccggca agacccaaggaaccccaa ataccggca agacccaaggaaccccaa ataccggcaca agaccccaaggaaccccaa ataccggcaca agaccccaaggaaccccaa ataccggcaca agaccccaaggaaccccaa ataccgccaa agaccccaa ataccacca agaaccccaa ataccgcca agaccccaa ataccacca agaaccccaa ataccacca agaaccccaa ataccacca agaaccccaa ataccacca agaacccaa agaacccaa ataccacca agaacccaa ataccacca agaacccaa ataccacca agaacccaa agaacccaaa agaaccaaa agaacccaa agaacccaaa agaaccaaa agaaccaaaaagaagaacccaa agaaccacaa agaaccaaaagaagaacccaa agaaccacaaaagaagaacccaa agaaccacaa agaaccaaaa accacaacaa agaaccacaa agaaccaacaa accaccaacaa agaaccacaaa agaaccacaaa accacacaa agaaccacaa agaaccacaa agaaccacaaa	,
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	RRGKDTAEGT N ggccacatgc c gacagactct t caagtccggcggc aggtgcacgcacgca tggagcctgtcc c gctgacctgtcc c gctgaccacac c tgagcctgtt c tgagcctgtt c tgagcccag c tgagccca g tgagccca g attgtgtcat c ggttaccac g tgagccccag c tgagccccag c tgagccccag c ggttaccca g tgagccccag c ggccccaga t tgagccccag c ggccccaga t tgagaccccag c ggccccaga t tgagaccccaga t tgagaccccaga t	
NP_005297.	NM_004624	
.52 G Protein- Coupled Receptor GPR43	159973 Vasoactive Intestinal Polypeptide Receptor 1	
159152	1599	

	Homo sapiens	Homo sapiens
cccggccctg ggctcggagg ctgccccgg cccctggtc agaacgcagc ctagagct; gcctgagcg ttctagcaa tctctagcaa tctctggag gattgcagt ggaactcagt cattagactc gccaatcaag ggcaaaaagt ctacatactt tcatcctgac ctgcccaatt ggaggaaagt ctacatactt tcatcctgac caccattgct gtcagttcc; tttggggta gagcaccaa gcaccaacac ctggagttct tgcctgggta aggcagttcc tttgttacca ctgggaaagttc ttctttacgc ttagttatca cttgggaaatga gaacgcagct ctagttggtt tgggaaatga gaacgcagct cttagtggtt cccaagtctca gtcggtggg aggacggtgc aacccaaagga tgggaaatga gaaggcagcg accaagcggag caccaagggacccaaggaactgggaaatga gaaggcaacag gaatcaaggg gattgaagtct ctgggaactgtg aacaaggactcca gaactgtgta actaggctca gaactctact gaacttgaactc gaactctact gtggaactttt gtgtatcctga accattggat tattaatgcc attatcctga attccccttg tgtgggttact tattaatgcc attatcctga attccccttg tgtgggttac gaccttgata tattaatgcc ccaagtggcca ctcattggata tccttgtat tattaatgcc ccaagtggcca ctcattggata tccttgtct gaccttcacc ccagtggcca ctcattgtat catctggata tcctttgtct gaccctcaca aggcttgtc aacaataaat tcctctgtct gaccctcaca aggcttgtgc aacaataaat	ARLQEECDYV QMIEVQHKQC LEEAQLENET P KLFSSIQGRN VSRSCTDEGW THLEPGPYPI GLSLATLLVA TAILSLFRKL HCTRNYIHMH GSVGCKAAWV FFQXCVMANF FWLLVEGLYL MVWTIARIHF, EDYGCWDTIN SSLWWIIKGP SDSSPYSRLA RSTLLLIPLE GVHYIMFAFF LNGEVQAELR RKWRRWHLQG VLGWNPKYRH	gegetegget acagetgegg ggecegaggt A aggeggeggg a cetaggaegg getgageteg ggatgeggae ectaggaegg getgageteg getgageteg gattacag agattcacec agaatgecga aaatgtacag agettetgag gtetcaaaca agacaacta egtgetggeg gettgecaat aaagtettea geaatttta cagcaaagca ggatggteag agacgttece agatteggte gagaggeagg tectggaag teacgttta tattetggtg tectegatgt etettggaac aggaagcata accaggaatt acatecacet gaacetgtte etagtecectgate etggteaggaatt acatecacet gaacetgtte
cgcggccagc cccggccctg ggctacactcctag agaacgcagc cctatggaggactcc tctcctggag gattaggactctt tctgcccaatt ggaggactgagggactgactgaggactgagggactgactg	a TCWPATPRG VVVLACPLIF KLFSSIGGRN LDEQOTMFYG SVKTGYTIGY GLSLATLLVA LDEQOTMFYG SVKTGYTIGY GLSLATLLVA LDEQOTMFYG SVKTGYTIGY GLSLATLLVA RAVEIKDALF DSGESDGCSE GSVGCKAAMY ERKYFWGYIL IGWGVPSTFT MVWTIARIHF LFICIIRILL OKLRPPDIRK SDSSPYSRLA VFELVVGSFQ GFVVAILYCF LNGEVOAELR STQVSMLTRV SPGARRSSSF QAEVSLV	gggcggcccc cgcgctcggg gcgc tcgctcccgg cccatgctgg aggc cgctgggcgg ccccggcac gctg tgacctgctg gctgctcgcc cccg aaatacagga ggaagaaaca aaat aagcctgcag tggcgtctgg gaca ccgtcacggt gccctgccca aaag gcaaaaactg tacgagtgac ggat gctacagga cccggaggat gaga atacctggg ctacagtgtc tctc tcttcaggaa gctgcactgc acca
cctgcccggg tctggtccggg gtgagagagag ctctccaaa tctgccccct acactggtgt cacggtagtg tcaggcattt gcttttaaa cccacccgaa ctgagggact tgtccaccca cgacaaaa ctgacaaaaa ctgacaaaaa ctgacaaaaa gataggaatg tctctcttggt ccacccacc gaacaccacc	9ttggcttgg NP_004615.2 MRPPSPLPAR IGCSKWWDLL ACGLDDKAAS LFISFILRAA YTLLAVSFFS ILTSILAVSFFS PDNEKPEVKM PSGGSNGATC	NM_003382 cgggacgagg ctcgcgcac aggcggcggg cccgcgctgc tttcatctgg gaaaaacaca gtgggagaga ggaaacata ggaaacata gatgcctgtg aaggccattt attctgtgcc
	159973 Vasoactive Intestinal Polypeptide Receptor 1	160040 Vasoactive Intestinal Polypeptide Receptor 2
	469	470

	Homo sapiens	Homo sapiens
tgaccagcca tectectggg tgggetggaa getgagectg catggecaae ttettetgge tgetggtgga ggggetetaceatgetegetege etacetectg egtetgetgga ggggetetaceagtetggetggetggengggggggggggggggggggggg	THLE IQEEETKCTE LLRSQTEKHK ACSGVWDNIT PINIS KNCTSDGWSE TFPDFVDACG YSDFEDESKI LLCL FRKLHCTRNY IHLNLFLSFI LRAISVLVKD LVEGLYLHTL IVAMLPPRRC EDTG CWDTNDHSVP WWVIRIPILI SIIVNFVLFI KST LLLIPLFGVH YMVFAVFPIS ISSKYQILFE KKW RSRCPTPSAS RDYRVCGSSF SHNGSEGALQ	ege ccegaggggg cgcgggagcc gccgtggccc A tigc tegecettic ecctgggggc gttggtgccg ggtg accettic gcctgggggc gttggtgccg ggt accaccaca acttgtact gggcagcatg gggcgcatcg gccgctcggc tgccgtcggc cctctggggc cctctacgt gggcgagggc ggtccatcgt gggcgagggc gccctcacgt gggcgagggc gccctctcggt gggcgtcgagggcc accggcgcac cctggccatc ggcc ggtcccttct tgttcctggt gggcgtcgagggcc ccaatggca ccgccgcc gagccccggggcc tcgcgcggcg atgccgccgc gagccccgcgggtcg tcgcggcggaggcg caccgccgtc ccgccgcggggggcg caccgccgtc ccgccgtcgggggggcgc caccgccgtc ccgccgtcggggggggcgc caccgccgtc ccgccgtcgggggggggg
tctggcacgt tgcactgcc tgaccagcca gtcttcctgc agtactgcat catggccaac ctcacaccc tcctggtggc catggccaac atcggatggg gcctcccac cgtctgcatc gaagacaccg gttgctggga tacaaacgac ccgattttaa tttccatcat cgtcaatttt ctgcaagaca tacatcccc agatgtcggc gccaagtcca cgctcctgct tatcccgctg tttccatca gcatctcctc caataccag cagggcctgg tggtggccgt cctcactgt aagcgaaaat ggcgaagccg gtgcccgac ggttcctcct tctcccacaa cggagacctgg gccagtcct tctcccacaa cggagacctcg gcgacgggag gcccacggtc gaggcggag gcccacggtc agatgcccga ccacaggtc cgcccgac gcgacggagag gcccacaggtcctctc agatgcccacacaaccaaa	.1 MTLLPPALL CWRPANVGET TEYILVKAIY DVLYSSSGTL FLAYLLIGWG SIIRILLQKL LCLGSFQGLV EHRASRAOSF	atgggcage gcgctgccgc gtgaccgtcg gccgtgtccg tcgcggccct tgcacctacg tgcacctacg tgcacctacg caggaccccg caggaccccg catctcggg catgaccccg ctctcgcct gggcccgaga cagctgggcg ctgtgcctca ctgtgcctca
	ve NP_003373 al ide 2	NM_001507
	160040 Vasoactive Intestinal Polypeptide Receptor 2	160055 Motilin Receptor (GPR38)
	471	472

Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
catttcaaag c gagaggcttc a cacggtgggc V VGVSGNVVTV P C CRLSLYVGEG A GPFLFLVGVE L FSRECRPSPA E RGHRQTVRVL I NPILYNLISK		C SDLLLTVSLP P F PLGYQAFRRP C LEAWDPASAG L LTLLLCVGPY A ARTQGGKSQK	c caacgectec A c gegggeegtg t ggtggggaac c caacttetac c cttcaeggee t cgtcaactac g tgtggaeege g cetggegetg
aacccaatcc tctacaacct ctcgcaagga agtccaggcc gcaggggaca ctggaggaga atgggataa SPFPLGALVP VTAVCLCLEV LPFDLYRLWR SRBWYEGPLL TRRRVRALIA VLWAYALLSA SRAPPPSPPS SRAPPPSPPS GRELWSSRRP LRGPAASGRE YFSQYFNIVA LQLFYLSASI AGDTGGDTVG YTETSANVKT	ctctatgtgg ccgcctttgc acggcccacg cccggctccg tccgacctgc tgctgacagt gcctggcctc tgccggcctc tatgccggcg ggggcttcct cccttgggct accaagcctt tgggccctcg tcctgtgtca ctggaccaca gcaacacct ttgtgcctcg tcctgfgcat ctggaccaca gcaacacct cttgggcct tgggccat ctttttctgc ccttggcat ctcacgctc tgtgccaca gcaacacaca gcaacacaca gcaacacaca gcaacacaca cctaatccgc tgttctggcat cccaatctaa gaggccctcg gaggccctggc ctcaacccg gaggccccg gcaacacag gcaaagaacgc aagggggcac	TAHARLRLTP SLVYALNLGC YAGGGFLAAL SAGRYLGAAF LDHSNTSLGI NTPVNGSPVC RSGLTHRRKL RAAWVAGGAL LNPLVTGYLG RGPGLKTVCA	gegtectggg gggeacegge gaeggeceag tecettegee gegetgatge tgetgggeet aagecgatge ggaecgtgae ttectectgt getgegtee ggegaette gtgeaagt gecaetetga egceatgag etgeacege geaegeeeg geggeggtgt etgegeeeg
cgcatctatc taaactgctg gggggaagtt cgtgaagacg ALPPCDERRC AVSDLILILG CRPLRARVLV PLASSPPLWL LCLSILYGLI YINTEDSRWM HRSRDTAGEV	ctccttcggc ccgaggctgc agcctccggg cttccactc agcagccttc cgcggccatc aggaggctgg tcccggtctgc tctcctgctc cgggccctc ggcactggc cttcctgtc cgggccctc	PLNVLAIRGA VEAVAHFFPL VFGLEAPGGW CYVGCLRALA GLITGAWSVV	cggacccaac caacgcctcg cttcttcgcg ctgccgccac ggacgtgacc ctggttgctg ggccacgtgt gttgcgcgcc
ctgcaacttt tctatctgag aagtacagag cggcggcctt cacagaagca gggacactgc tacaccgaga caagcgctaa MGSPWNGSDG PEGAREPPWP MLIGRYRDMR TTINLYLGSW CTYATLLHWT ALSVERYLAI QDPGISVVPG LNGTARIASS QLGALRVMLW VTTAYFELPF LVVVLAFIIC WLPFHVGRII		MDLPPQLSFG LYVAAFALGF LKAVEALASG AWPLPASLCP CYSWGVCAAI WALVLCHLGL PARFSLSLLL FFLPLAITAF NASNVASFLY PNLGGSWRKL	atgcacaccg tggctacgtc ggctgcccgg gctgtggcgc gacgcctggc tcgtgccgct tcgctggtca tctacgtcat atcgccaacc tggcggccac ctgctgtac cgctgcccgg atcagcagg tctcggtgca ttggtacgtga cggtgttccc gctgtcagcc tcagcatctg
ctgc aagt caca taca NP_001498.1 MGSP MLIG QDPG QLGA LVVV	NM_005303 atgg ccgc agcc tga gtct agtg tgct tgct ccgg ccgg	٦.	NM_032551 atgct ggct gacg tcgc atcg atcg atcg atc
160055 Motilin Receptor (GPR38)	160059 G Protein- coupled Receptor GPR40	160059 G Protein- coupled Receptor GPR40	160189 G Protein- Coupled Receptor GPR54
473	474	475	476

	Homo sapiens	Homo sapiens	Homosapiens
tottccccag ccgcgccctg tgctgccgtt gctcgccacc tcgccgtgcg ccccqcgccc caggcgccgt gcgggccaag cctgctgggg ccccatccag ggacccacg cagctacgcc gcaactccgc gctgaacccg tccgccgcgt ctgcccctgc cggaccccgc agcccctgc gggaccccgc agccccacac		GCATTGTCAT GCACTGGCTG A CCCACATCTG CCTACACTGC TGACTGCTGC TACATGCTAG GACTGCCGG GGCGGCTGCG GCACATGCGC CTCCTCTTCC ATAGCCAGAC CCATTCGCTC GCAAAGACTT	ctccctccag gaccgagggg A gtgaaacca gctgggggcc cttggagaga tccacaactg tgccacgtgg agctcagcca atgtttgtgg ttgggctggt ggccgggcag ggctgatgaa gtcctgtct tgcccgtgtg agcttctcc gcccgtgtg agcttctcc gccccagtgt cagcgttacc agcaccgagt atcatccgc tgcctgaggt ctcttcatgg caccttttga accatcctgg gcttcctgct tgccggtgc gcttcttga accatcctgg gcttcctgct tgccggtgc gcttcttga accatcctgg gcttcctgct
gegegectae tgeagtgagg ectteeceag caacetgetg gegetgtaee tgetgeeget getgegecae etgggeeggg tegeegtgeg geaggtgetg geagagegeg, caggegeegt egtggteetg geagagegeg, caggegeegg getgggeece gegggeteet ggeaceagg getgggeece gegggeteet ggeaceagg getegaatte egacaggeet, teegeegegt etegeactte egacaggeet jteegeegg etegeactte egacaggeet jteegeegg gteeceaeegg eceeggaeeet eggaeeeegg	DGPVPSPRAV FLLCCVPFTA IHRRTPRLAL ALYLLPLLAT FRACWGPIQ RQAFRRVCPC LGEDNAPL	ACCTGACGG CTGTATGAA TGATGTCATC TTATCAGCCA GACCGCGGG ACCACGGGTG	cctgccggcc cctgccggcc ttgccggcc ctacctggc gcgcggctca cctgggcat gctctgggcc agcatctc ccctcctgg cccttccggcc gccatgtgc ccttccac gctgtccac gctgtccac
caccegggcc tegeactgta atgeggccat ccctgcaggg tggtggcaggc ttgagacctg ttaagacctg ccttcctggg accccegccg	ASWGAPANAS KPMRTATNEY ATLTAMSVDR CSEAFPSRAL AERGAVRAK MSYSNSALNP APSRAOKPGS	GTGCCTGCT AGACCTGCT CAACTGCTCT TCACCGGATC CCATTACTTG CCCAGGGTTA	acactecce aaactecago cagggggtca ctggtggtcc ctggtggtcc ctggtggtcc ctcaacatgg gtcaccettgg tactttgtca atgtgtgcag cagctggtgg acctggtgg acctgggccc ctcatcacag
caccgcctgt gagcgcgcct tgcgctgctg gccgatagcg gtctcgcgg ctgttcctgg gcctacgcg ctgttctgg gcctacgcg ctgctcacg	NP_115940.1 MHTVATSGEN SLVIYVICRH IQQVSVQATC HRLSPGPRAY ADSALGGQVL AYALKTWAHC		NM_007264 cagactactactactactactactactactactactactacta
	G Protein- Coupled Receptor GPR54	160202 Adrenomedull LG6564 in Receptor (ADMR)	160202 Adrenomedull NM_in Receptor (ADMR)
	477 160189	478 16020:	479 16020.

Ното sapiens	Homo sapiens
ω	<b>«</b>
ctgcatggga cccacatctc gatgtcattg actgcttctc ctcagcccac acttccgggg cagaccaagg cgggcacatg atcaccaagg gtgatagcca tttcaggcac accatttgct cccagctgag gta SECHVELSQS TKRVVLFALY GIVLSLPWM LEVTLDYTWL SWQRYQHRVR RAMCAGIWVL STTILGFLLP FPLITVFNVL LTLHGTHISL HCHIVHLLYF KDQTKAGTCA SSSSCSTQHS	tctgaagctcc ggtccgccgg gatcaggaca gatgtgcctg gatgtggcctg gcagatcgc gcccttctcc cagcgtgtgtc catgaaca catgaaca catgaaca gatcgaca gatcgaca gatcgactgg ggacaagtcg ggacaagtcg ggacaagtcg ggacaagtcg ggacaagtcg ggacaagtcg ggacaagtcg ggacaagtcg cggcgctgag ggacaagtcg ggacaagtcg ggacaagtcg ggacaagtcg ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg cggcgctgag ggacaagtcg
ctgc gatg ctca caga atca tttc ccca SECH GIVL SWQR STTI LTLH	
gctgctcaca cttcttctat ttacaactt tcctaaggac ttccatcatc aagcctgagc gcctcttaca ELLDLENHTL YILNMAIADL XYTLTSASP XSTWALAVAL LLNAVVHYLL LLNAVVHYLL LLNAVVHYLL NTSPISPIOP	ccagcaggag gctggcctgc cacagagaga gccagagaga catcccggca ggcttcccg ggcgtggcac ggtgtgccg tgccggcggg tgccggcggg tgccggcggg tgccggcggg tgccggcggg tgccggcggg tgccggcggg tgccggcggg tgccggcggg tgccggcggg tgccggcggg gtgtccccg gtgtccccg gtgtccccg gtgtccccg gtgcccgg cccgggggg gccttcccg gtctacttcc ttccagaggg gccttcccg ccggcggggg gccttcccg ggccccg gtctacttcc ttccagaggg gcctcccg ccctccccg
tgaccctgct acctgctcta acccatcct tccattacct ccaccagca accctgagcc ctccactca SDLGEIHNWT GSGRAGIMNL IFFLVCLSVD MCLFMAPFET CAYVAVEVMC NFLSPHFRGR LSFQAHHLLP	gccatctctt cgcgctcgc aagagcctc ctggtgagct ctggtgagcc catgactacagc catgacttttc ctggtttttc cttccttacc gttccttacc gttccttacc ccggggccga cgtgggcc ccggggccga cgtgttctt caggccca caggccat caggccat caggccat caggccat caggccat caggccat caggccat caggccat caggccat caggccat acagaccat acagaccat acagaccat acagaccat caggggggg aataggaacc
ccctatcatg cacctggtcc tgtgtcatca aatgctgtag tcctcctgtag gcagccccc tccccatct PSEGVTAVPT NLLVICVNWR YFYFVNWYSS HIQLVEGPEP PKSRRHCLLL LHCVINPILY	tgettecaaa ggetecegge gggtgtgeaga gaaactgete aggecegga eteeggeegt ggetggteet tgetggteat ecteggggggg ggetetgeat ectectgt acgtggagtg catggtete acgtggagtg catggtete acgtggagtg catggtete acgtggagtg catggtete acatggtete acatggtete gggageage catggtete acatggtete acatggtete acatggtete gggageage ectegaga ectegaga ectegaga ectegaga ectegaga ectegaga ectegaga ectegaga ectegaga ectegaga ectetegg ectegaga ectegaga ectegaga ectegaga ectegaga ectegaga ectectgg ectegaga ectegaga ectegaga ectegaga ectegaga ectegaga ectectegg ectegaga ectegaga ectegaga ectegaga ectegaga ectegaga ectectegg ectectegg ectegaga ectectegg ectegaga ectegaga ectegaga ectectegg ectectegg ectegaga ectegaga ectegaga ectegaga ectegaga ectectegg ectegaga ectegaga ectegaga ectectegg ectectegg ectegaga ectegaga ectegaga ectectegg ectectegg ectegaga ectegaga ectegaga ectegaga ectegaga ectegaga ectectegg ectectegg ectegaga ectegaga ectegaga ectegaga ectegaga ectegaga ectegaga ectectegg ectegaga ectegaga ectegaga ectegaga ectegaga ectectegg
gtgctggctg cctccactgc catgctgcac ccggctcctg gcctgctgca tccaatact MSVKPSWGPG LAMEVVGLVE WGSFSCRFTH SALIPLPEVV TACRLRQPGQ FYDVIDCFSM	atgcgggtc tatttccaa ccggaggcgg gagatggctg gagatggcaa atgctgcac tcatacttc tcatacttc tcatactgg tcggcgtggg tacttctgg tacttctgg tcatcctgg ttcctctgg ttcctcttct atctcctgg ttcctcttct atctcctgg tcatactgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg atctgcatacc acagaggacgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg tcatacctgg acagaggacgg acagaggacgg acagaggacgg acagaggacgg acagaggacgg acagaggacgg acagaggacgg acagaggacgg acagaggacggagg acagaggacgagga acagaggacgagga acacacac
NP_009195.1	AX136399
160202 Adrenomedull in Receptor (ADMR)	160204 G Protein- Coupled Receptor RTA
1602	1602

	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
cagcectect tgaetgtgte ecagecagea ceaggecage agecteatee etgecattea gggetgtee agagattega teetettaag geattateag tgaaggaaat ggtgtetggg agaattet geaaacaace teetteetgga agaaagttet ggtteacatg ecttgtaget aagtetttet geaaacaace teetteetee eggtgteetee etttggtgae tttgatgggg ggatttetgg ttatgteaag getettggaga caggaaggge etttggtage tttgggtagt tgaectgeet tttetgaete egggaacgag eagteeteegg gageacttga ggtatecege aggecatgag gaeceactgg gageacttga ggtatecege aggecatgag gaeceactgg gageactet tggeteeage eccaecega aagtggaeac tggeteegee etggecacet ggggaetgge actgtggtee acagtggee aagtggaeac aagtggaeac aagatgtata teaataaaca ttttataact tge	PGNRNRMCPG LSEAPELYSR GFLTIEQIAM LPPPAVMNYI FSIKRNPFSI YFLHLASADV GYLFSKAVFS ILNTGGFLGT VSLLPAVSAE RCASVIFPAW YWRRPFKRLS AVVCALLWVL GAACRHMDIF LGILLFILCC PLMVLPCLAL ILHVECRARR SSIYLGIDWF LEWVFQIPAP FPEYVTDLCI CINSSAKPIV ORALRDGAEL GEAGGSTPNT VTMEMOCPPG:NAS	atgaatggg teteggagg gaccagagge tgeagtgaca ggeaacetgg ggteetgaca A egtgateget ettgtteeag gaagatgaac tetteeggat geetgtetga ggaggtgggg tectecege cactgactgt ggttateetg tetgegteea ttgtegtegg agtgetggg tectecege cactgaetgt getteetge eatestgeet geatggeet geagtgetgg agtgetggge ttetteecac tggecettge egatteetg etetetget geaactet eatestgtee tatattgtet ceaggagtg geteetegga:gagtgggeet geaacteta eatescett gtgtteetea getacttge eagtaactge etecttget teatetetgt ggacegtgg etetetgte egacattgee etggeectg aaccacegea etgtgeage gagtgggeet gaaatteegg actatetgte tetacecegt etgggeetg accatetgg ggegagetgg etgetetggg egtteattgg etgtaegga etggaegetgg etteetggg ggegagetgg etgetaettgg egttaeggag etteetggg gagggaeaca tgetaettgg etteetggg geettagga atcataggae etgggeege ettetggggggggggggggggg	CSDRQPGVLT RDRSCSRMM SSGCLSEEVG SLRPLTVVIL RMARTVSTVC FFHLALADEM LSLSLPIAMY YIVSRQWLLG LLVFISVDRC ISVLYPVWAL NHRTVQRASW LAFGVWLLAA CYLAFNSDNE TAQIWIEGVV EGHIIGTIGH FLLGFLGPLA ANRPKRLLLV LVSAFFIFWS PFNVVLLVHL WRRVMLKEIY LNPFLYVFVG RDFQEKFFQS LTSALARAFG EEEFLSSCPR	
3 2 2 2 2 2 3 4	CAC39840.1	NM_001506	NP_001497.1	NM_004778
·	160204 G Protein- Coupled Receptor R	160206 G Protein-Coupled Receptor GPR32	160206 G Protein- Coupled Receptor GPR32	160210 G Protein- Coupled
	482		484	485

PCT/US01/50107 341/448

ttttgcttgg cccccagac acgtagggcg gatggggag tccaaggcag aaatccaatg actctaagac aggccacatg ggctggcctc cctctgcttc tcctgctcag tgctcaacac ttatgtgcta cgatcatcgc cggactcctg dedeceedad ccttgatgtg ggttcacagg gggcagtgga aggaaaggtt gctagacgct agcacattct ggtctgcact ctctgaccta ggtgttctgt cctctgacct gtcagagact tcctgtgtt gcaccacctt agaaccaccg actegegeea ggccaggccg ggccctacca cgctcgtgtg acccggtgct gcacggtgct gccgccgccg cggaggaacc ggggccgggt caagctgcgg cgctcgctgc tgttccagcc tgccctcttc atttagccaa tgcttactgc ggggctaatc ggtgcggccg gtgtgggcgc gggctgcggc gggtggcgcg ggaagcagcc ccgcggttca attcgatatc gggggggac.ccaggcacct gcattttaaa tcccactcta gcgtctcccc ggagttcagt tttaccagat aaaccatcca tgtatttttgigagagagag ttagccagtc, tttacagctg ccaaagtgct gggcacagca accagaataa gatgggaggg'gtaacttgca gacctgttgg tettettet.caacatgtte.gecagegget tgaccgcgat gccacgtgca ggccttcctg, gtgccgctgg gcagcaccgc ggccgccggc cgccttcgcg ctctgctggg cttcttcaac agcgtggcca cggcctcccc tttagctctc tgcagccgcc teggetgget getgggcage tgegeagegt ctcgagttag aacccggccc ttaaagcagt;gcttctcaaa cttgttaagt gcagtctgat ccaggaggcc ttcagggcta acgaccacag ctctggtgag cgaggacatt ctgtcggcct tggacttggg gaaaagttgg tgtcaatgaa cctggagcag;atgagccgtc cgcggccgtg ctgctgcacg gtgggctgcc gggccactcg tgggagctgg ggtgctttgg gcactagcgg gacgggcgca cagtgcggca agaaactctt gagatcttgg gccgagaagc ccagcactgc cgggaaacct gaagttgaat atctgtgcag accagcctcc cctcttcgtg ggcgctgtcc ctcgcggctg cgcaaacccg agtgaaactc gtaatagact ccacctgccg tcttggccgt gggacaccat agttcctgct taatcccaag tctgccccat acatcgacca atggagtcat gcctgcaggt aagtctgcct acccggggcc gcctgcggtt ccgtcgtggc cgcgggcgca ccagcctggc acatgctgcg acagcgagct tgagcagcac caccagggtg aaacagtgag aagctcccag gcagcttcta cttgcccagt ctcaatgact accttgtgac gtcaagcact teggtegtta agctaagcgg ccettttgcg tctcattcct cccagggacc gaagcagatg tgctgcacct agtaacacaa cacacggggt gttttatgtt gcgcgtctcc gcgaaagtat caaagtccga tcttttcag acctaggggt tgcacttaac ctgaagccac gcggcgcaca acctgccccg aaccgggcgc atcttaaggg ggttaagtga gcatcacatg ggatggcgtg gtcatttctt tgggcactgg gctaccattt agctctgcag gtcagtggaa agcatccgct ctggtggaga accacctggg ttcacctact cactcctcca ctggaccgct ttcgtgttcc ctgctcctga gccgtcagca gcggccgtga ctggtggcag ctgctggagg cccttcgtca ctggtggacg accgcccgct ttaagatgct ctaaaagtct ctgcacccg cctgtgaatc agactctgaa ggctcaggga gaccgtggtc cgtgttcagc ctacgtgctc dcddddccc gcactcacac ccgcagtgat actgagagtc cgaggcctgg ggggaagga tgagaagcac tcatcccaca ctaaccctag ctcgagggac aagcagcagg ggggaaatga gctgtgtttg tggatgaaat caacgccaca cagcaacacc gctgctgggc cctgcccttc ctgcaaactg cgccatcagc caccgtggcc ggtgccctat ctacaatgtg ggcggccctg ctcgagccac cttcgtgcgc gegeggetg ggagagcgtg cacctcctcc gggccccctg gtcggaaggg tacagcacac gggatccctc gggctgggca atcacttcca

Receptor (CRTH2) GPR44

Homo sapiens	sapiens	Komo sapiens	Homo sapiens
۵	<	ω	æ
ctgagcaaag cgccctgct tggtgcattt agggactttg gcactcaata GVILFVVGCR FFLNMFASGF DTISRLDGRI LRLQHRGRRR SLAFFNSVAN ASPLALCSRP	cattgtgaat ggatgtetge gaatctaaca ctatttcatt tactctgtca tggatattat cttgagaatt tttggagaatt tttggagaatt tgttgtctge aaatgaccga aaatgaccga cagccttge cagcctctcc atctgtctcc	TFLIIAGNLT SLTCRVFGYI LIFLPSFFGW RQHTKEINDR RVLDNPTLSF KPRKRANSCS	gctgatgaaa caacctgctg
ggcctggccc acagcaggtg gccaccctgt gttgacacct cacttccccc attggacacg aatgaaagct cctcgagggc attgtgcctg tatgcaacag IDHAAVLLHG LASLLGLVEN LAVGHSWELG TTFCKLHSSI VCLVLWALAV INTVPYFVFR FLLAFLVPLA INTVPYFVFR FLLAFLVPLA INWRGLPFVT SELGGAGSSR RRRTSSTARS SSTSS	atcctgaaca, tgagcagtgg tttggccact acagtgtggt acattctga ttattgctgg ttacatcatt atactaccag ggagttagct gcttggttc tgtcttactt gccgggttt tgtcttgctt gccgggttt tgtcttgctc ccctgtcg caactggtca ccccttgtcg cttatttct tgccttcctt gcttagctc ccaagagat tcttcagaag agactggaca accagttat tttatatgct cgtcagaag agactggaca ttttgtaact; gtgtaatata ctgtttgaact; gtgtaatata ctgttttgaact; gtgtaatata	FGHYSVVDVC IFETVVIVLL GVSCLVPTLS LLHYSTGVHE QLVTPCRLRI CIILIWIYSC LYAPAAFVVC FTYFHIFKIC TSVFYMLWLP YIIYFLLESS LFETMCTSCM CVKDQEAQEP	ctgtttgacg gtgtcaacga ttcgtcctgg gcctgctct
	tgaatggagg atcctgaaca, tgagcagtggg cccacttgga tttggccact acagtgtggt tgtgttgtg acattctga ttattgctgg tgctccactg ttacatcatt atactaccag tcttttgtt ggagttagct gcttggttc ttctatggca tgtcttgctt gcatcagtgt ttcctacaat caactggtca cccttgtcg ttactcctgc ctaattttc gcatcagtgt tgacattttt gaatggtgtg ccacgtcttg tgacattttg cattatttcct caaaatttgc cttcagaga agactggcat tgaggtagat tcttcagaga agactggcat tgaggtagat accagtgtat tttatatgct agaaagctc cgggtcttgg acaatccaac aagtaatgt ttttgtaact; gtgtaatata cctccgaaga ctgtttgaact; gtgtaatata cctccgaaga ctgtttgaact acaaagaaccc aaacctagga, aacgggctaa	EGHYSVVDVC GVSCLVPTLS QLVTPCRLRI LYAPAAFVVC TSVFYMLWLP LFETMCTSCM	
-	tgaatggagg cccacttgga tgtgttgctg tgttccacgg tctttcgtt tgtccacgag ttctatggca tgacatttt tgtttgctta caaaaatttgc ggaaagtca agaaagtc aagtaatagt cctccgaaga acaagaacc	ASERHSCPLG QTMAYADLEV LAITKPLSYN AYFTGFIVCL RYFTAMVLFRI NGVFRLGLRR	tggggactgc catccccacc
caaaggccag ggtgccagc ccttcccct ttatgtttc tgtattgcc ctgtagactg CPILEQMSRL LHLALSDLLA LQVVRPVWAQ PGPDRDATCN VVAAFALCWG MLRKIRRSLR GWLLGSCAAS	ccaggtggac gtcactcctg cagtggttat ccttcattg actccacagg taaaaagtgt ccaagcctct ttacaggct ttaccagg ttgccatgg ttgccatgg tccacattt tccacattt tccacattt tcccacatt tcccaqtca ccatggtt acttcttct ggcttgcagt tccggctagg accaggaagc	ILNMSSGIVN LHHYTTSYFI CLACISVDRY EWCATSWLTS SSRETGHSPD FCNCVIYSLS	aaaacaccag ttgcagtcca
tttctgccac ggaacagtga ccctcccatc tgcttgttta gtctattgtc aatatttttg MSANATLKFL MRQTVVTTWV LLSAISLDRC MCYNVLLLN PGRFVRLVAA PVLYVLTCPD EEPRGPARLL	atgaatgaat gegtecgage atettegaga esgaegatgg ettetecatt atetecagtte tycattattt gggaaacetg gectattta tteacctact agagecegat egtegetaeg tatataatt ttaacaacet aaeggegttt tggtggaagg	MNESRWTEWR VIFAFHCAPL ISVLKSVSMA GKPGYHGDIF RARFPSHEVD LTTWLAVSNS I	atgagtcagc accctacagt
NP_004769.1	NM_005684	NP_005675.1	NM_005683
160210 G Protein- Coupled Receptor GPR44 (CRTH2)	160212 G Protein- Coupled Receptor GPR52	G Protein- Coupled Receptor GPR52	160217 G Protein- Coupled
160210	160212	160212	160217
486	487	488	489

	Homo sapiens	Homosapiens	<b>Homo</b> <b>sapiens</b>
g aacaggtggc ccgattatgc tgccacctcc ctgctgctgg tgctctcct cccattcaag c ccgtccttgt ggagtgcctt c accattcagg gacctggt ggagtgcctt c accattggc tcatcaggaag atctttggga g accggaaga tcctttggga g accggaaga tcctttggga g accggaaga tcctttggga c aacatgtcta atgatactg gagcgccaag c ctcttcca tgggcatcat gggcttctgc c cgccgagacc acaccagga ctggttctgc c cgccgagacc acaccagga ctggttgcag c ctggtgagaa acagctttat cgtagagtgc c ctggtgagaa acagctttat cgtagagtgcag c ctggtgcaa acagctttat cgtagagtgcaa ctggttcaaca tgtccatcaaag aattccgcat gaacatcaaga	FVLGLLLNLL AIHGESTFLK PSLCTLVECL YFVSMYGSVF TGSIPIYSFH GKVEKYMCFH RRDHTQDWVQ QKACIYSIAA QLSMCFSNVN CCLDVFCYYF	c agcgacetea cetggecece agcgateaag A etggtgetag gectgetget caacagectg geagtggacgg agacecgat ctacatgace g tgcactecetg gectecetgg cetteggget gaceacacagg ceteteggg geatetacet gaceacacagg gectgtggggggggggggggggggggggggggggggg	LGFYAYLGVL LVLGLLLNSL, ALWVFCCRMQ QWTETRIYMT P RDTSDTPLCQ LSQGIYLTNR YMSISLVTAI AVDRYVAVRH WVLVIGSLVA RWLLGIQEGG, FCFRSTRHNF NSMRFPLLGF RPPTDVGQAE ATRKAARMVW ANLLVFVVCF LPLHVGLTVR TSKLSDANCC LDAICYYYMA KEFQEASALA VAPRAKAHKS
cttccttaag agtctttgac gtccccttc aagcgttgagc cctggtgagc cctggtgagc gtttggcttc gtttggcttc cctgcagc cctgctgggc cttctcttg	TLOGACHET TLOGACHIPT MVLSQVQSPF SACTIWVLVW CSRSIHILIG RAKQSISFFL	ctgtggctcc gggcgtcctg ccgcatgcag ctgtgccag accggccat gcggtcccc cctggtggct gcacaatttc ggtcttctgc ggtcttctgc ctgtgcctc ctgtgccct ctgtgccct ctgtgccct ctgtgccct cctacactgct ccaactgcta	LGFYAYLGVL RDTSDTPLCQ WVLVIGSLVA RPPTDVGQAE TSKLSDANCC
gccatccatg gcttcagcac atctacatga tcaacctggc atggtcctgt cccaggtaca tacttcgtca gcatgtacgg ttggccatcc gttacccgct tctgcatgca caatctgggt gggaaagtgg aaaaatacat gcttcttcc cgctggaggt tgctccagga gcatccaca cagacagcc tgcatcaca agagccaagc atgtttctt agagccaagc atgtttctt			
	NP_005674.1	NM_005301	NP_005292.1
Receptor GPR55	160217 G Protein- Coupled Receptor GPR55	160219 G Protein- Coupled Receptor GPR35	160219 G Protein- Coupled Receptor GPR35
	490	191	492

	Homosapiens	Ното	sapiens	Homo sapiens
	gggtggcage ggeggeggeg aggeggecge ectgggecte A getgetegge cagectege; eggecectgt getgetegge eagectget getgetegge geggecetgg ecgecetget getegaectg ggegecetgg ggegecetgg ggegecetgg ggegecetgg ggegecete ggeggecete gaggecete gaggecete getagecete eggegecete gaggeggeggg ggegetetetat gaggaggec tgggegggg ggtcaccege etgggggggggggggggggggggggggggggggg	gcccagttcc cctgctgcca aaaggcattg gtttatga VSLAGNVLFA LLIVRERSLH	RAAAAGAPP GALGCKLLAF LAALFCFHAA FLLLGVGVTR AMLVCAAWAL ALAAAFPPVL DGGGDDEDAP CALEQRPDGA YLRLLFFIHD RRKMRPARLV PAVSHDWTFH GPGATGQAAA AGPGRGARRL LVLEEFKTEK: RLCKMFYAVT LLFLLLWGPY TASVWLTFAQ AGINPVVCFL FNRELRDCFR AQFPCCQSPR	tote eteceetigg tgegagecae egagececae A gag geggeectgg cegtgeceaa tgeetegeae ttee gaetggeaga actttgtggg caggaggege ttee gaetggeaga actttgtggg ttaeteette egte etggteetgt eatgteatett caagaaceag sate gteaectgg cagttgeega cataatgate ggtt egettgtgg acagcacatg gatatttggg tgee eagtactge cactgeactg cactgeactg cactgeactg cactgeactg cactgeactg cactgeactg cactgeactg cactgeactg cactgeactg sate ttaeettea tgaececttga acagcactge tacgttett tatta ttaeettea acacatgge dacetggaectga ceaectgaecectea teaectggaa ggaecattgtg gagacattgtg cactgeactg cactectea tatteettetgaa gtaectggaecettgaga cactectea teaettetggaa gacctacggaecettgagaecettggaa cactectea teaettetgtgaa gacctacget
ODSLCVTLA	a cgagcgagcc a cgctcagcct g tgcgggagcg g acgggctgcg c tcttctgctt a tcgcgcacca g tgtgcgcac g gcgacgacga c tgctcttctt c tgctcttctt a gccacgactg g gcggcttcg a gcacgactg g gcggcttcg g gcggcttcg g cgggcttcg g gcgcggcgcg	agctgaggga cgacccatcc GGGEAAALGL	CLADGLRALA CLPAVMLAAR RAAAAGAPP YLAIAHHRFY AERLAGWPCA AMLVCAAWAL PGALGFLLLL AVVVGATHLV YLRLLFFIHD NWTAGFGRGP TPPALVGIRP AGPGRGARRL VVASYLRVLV RPGAVPQAYL TASVWLTFAQ TTQATHPCDL KGIGL	atggtccctc acctettgct getetgtete gagggcgggg ttettetett ggaacaacta cacctetece tacggcgtgg agtcccagaa ceccacggtg atcattgtc tetcactet tggcaacgtc gaatgcact ctcactett tggcaacgtc cgaatgcact cggccaccag cetettggtt aaggcatgt gecatgtcag cectttggt aaggcatgt gecatgtcag cogetttgc acctgacag cattgcgt ggatcgccac acactgacag cattgcgt ggatcgccac atctcatca caaagggtgt catctacatc tcactccac atgctatetg catctacatc tcactccac atgctatetg catctacatc tcactccac tcactccac tcactccaga ttggccacct tcactccaga ttggccacct tcatcctcggt tcactcctggt tggccacct tcactccaga ttggccacct tcatcctgct ctacatcctggt tcactcctgggt tggcacct
	NM_018971	NP_061844		NM_016540
	160221 G Protein- Coupled Receptor GPR27	160221 G Protein-	Coupled Receptor GPR27	160222 G Protein- Coupled Receptor GPR72
	დ .	494		495

	Homo sapiens	Homo sapiens
agagcagtac caaggtcatc caactgctat ggcattactg agttccttcc caataacctc acccattgtg acctgaggca ctcctgcaga atgtgatgtg	DWQNFVGRRR P VNLAVADIMI QVIMHPLKPR PADLFWKYLD IKMLMLVVVL NFRIELKALL	atcttagagt A atcttagagc ggacacgaca ccctgcacac gcacccacg cccaggatan ctcagcagct gcagaacacg gggcacagtg aatacaatgg aatacaatgg aggaggagc tgaagacacg gacacagtg aggaggagc tgaagacacg gacacacg gacacacg gacacacg cagagtctcc aagaatgtg
gctgtgtaat atgattggcg atgtgaccac gaagaagacc atcaagatgt tgatgctggt cctcaactgc tacgtcctcc tcctgtccag ctttgccttc cactggtttg ccatgagcag gctgaacgag, aacttcagga ttgagctaaa gaagaatgat ggccagaggg ttgagctaaa gaagaatgat ggccagaggg ctcccttgc gtctgggaag acagacctgt catctgtgga gtctgggaag agtgggaggg gtctgtctcc acacatgatc ttcagagtgc tggaaacaca tcctaggaaa ctgtccagcc tcctagcccc actagacatg tgttcataaa ttcccatcta ctctgaggaa gaggaggg gacaacgtg ctccatctaaa tcataaaa ttcccatcta	GERADEGSAE AALAVPNASH FESWNNYTES EGRADEGSAE AALAVPNASH FESWNNYTES KINVESLEGNV LVCHVIFKNO RMHSATSLFI SLPHAICOKL FTFYSEDIV RSLCLPDFPE RYAKKLWICH HIGDVTTEOY FALRKKKKK FRYAWTEKND GORAPLANNL LPTSQLQSGK	cacgcaggeg gggccctggg tcattttaaa caagacgcat gacatgtact tagatagctt caaaatatgc cagggaggaa ggtgagcaag aagccaccac cgtggaagaa cagcgcggan gagatccacac atgttcttga caccgtcatt ccgagcgtct gtcagcagag tcgtggctga gccacacgtg caggattgct caagatggaa atttttggcg agacctgga ggaagaaggaa atcctggcac acgctgcaac ggaagggaa atcctggcac acgctgcaac ggaagggaa atctggcac acgctgcaac ggaagggaa atctggcac acgctgcaac ggaacacgtg agaccctgga gaccacacgtg agaccctgga gaccacacgtg agaccctgga gaccacacgtg agaccctgga gaccacacgtg agaccctgga gaccacacgtg agaccctgga gaccacacgtg agaccctgga gaccacacgtg agaccctgga gaccacacgc acgcacacga acctgccacaggaaccc acgccacaga gaccacacgc aagacctgca acaccccagt
gctgtgtaat atgattggcg gaagaagac atcaagatgt cctcaactgc tacgtcctcc ctttgccttc cactggttg gctgaacgag aacttcagga gaagaatgat ggccagaggg gtctgggaag acagacctgt gggaagagg agtgggaggg acatgatc ttcagagtgc tcctaggaaa ctgtccagcc actagacatg tgtccagcc actagacatg tgtccagag gcccactgaggaa ctgtccagag acacatgatc ttcagagtgc tcctaggaaa ctgtccagcc actagacatg tgttcataaa	GERADEGSAE AALAVPNASH IIVESLEGNV LVCHVIFKNO KGMCHVSRFA QYCSLHVSAL SLPHAICQKL FTFKYSEDIV RVAKKIWLCN MIGDVTTEQY RTNNALYFAF HWFAMSSTCY	cacgcaggeg gggccctggg caagacgcat gacatgtact caaaatatgc cagggaggaa aagcgcageg aggctgtggg ccgccaccac cqtggaagaa gagatccagc aathochact agccttcctc atgttcttga ccgagcgtct gtcagcagag gccacacgtg caggattgct atttttggcg agaccctgga aggaagggaa atcctggcac ggagcacgtg agaccctgga aggaagggaa atctggcac gagcaaatgc ggagcgagtg tctgccgacg gatgctggcg cctctccgcc aagactgcc
	CLURATEPH EGRAD KALLIVAYSF IIVFS RFVNSTWIFG KGMCH AVIWTWATFF SLPHA PLLIISVAYA RVAKK YVLLLSSKVI RTNNA	cgaggctagc cacge ataggaccga caaga ttggaacccga caaga aggtgggccn ccgcc gaactgccgt gagat ggactgaac agccc acagaggcag ccgag cacgccacac gccac atatattat atttt cgccttgaa aggaa tgtgfgagt ggagc caccacgtg ggagc tgggggctgg gagca tgggggctgg aacca atgagaaggt tctgc
	MUPHLLICCL DEL YGAESQNETV KAL TLINTPETIV RFV ISITKGVIYI AVI LATFILLYIL PLI FALCWFPLNC YVI SMCQRPPKPQ EDG	aggggttg acttgaga acccggga ccggggga aaagcag ctaaggc ctaaggc cacgcca tatatat accatcc aggacac aggacac tgcccaa
	NP_057624.1	A 013345
	160222 G Protein- Coupled Receptor GPR72	160223 G Protein- Coupled Receptor G2A
	496 16022:	497 16022

	Homo sapiens	Homo
gccggccaac ctgggtcatc ctgggtcatc ctgcgaccgc daccgcctac gaccgccatc gttccagacg cgggtactac caccaaccac ggtaccacctg caccatgtgc agagtcatc agaagtgc cacgttgaac agaagtgtc agaagtgtc cacattctc gcaccttctc ggagtcctgc caacttctcc gaactaccaa caaatgggaa caacttctcc gaactaccaa caaatgggaa caacttctcc caacttctcc caacttctcc caacttctcc caacttggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggaa ccacatgggac ccacatggac c	AVCTLGVPAN P GLLACKVTAY GIVHYPVEQT GLSAQKAKV VVFLCLSTVN VALADHYTES	catgoggtgg A cagggtctct gcagagccga gccttggtg gcccttggtg ggaactgagg
cgctgggggt gcaacgtgct cctgcaacgt gctgcatctc gctgcatctc gccgccggag actacccggt ccatcgccct tcatcgcccc gagacaggaa tctcgcccc attcccgca acttcgcccc ctgccaggaa cagaccacta ggctgattga ccagaccacta cctggaagac ccagaccacta cctggaagac ccagaccacta ccagaccacta cctggaagac ccagaccacta cctggaagac ccagaccacta ccagaaccacta cctggaagac ccagaccacta ccagaaccacta cctggaagac ccagaccacta ccagaaccacta cctggaagac ccagaaccacta ccagaaccacta ccagaaccacta ccagaaccacta ccagaaccacta ccagaaccacta ccagaaccacta ccagaaccacta ccagaaccacta ccagaaccacta ccagaaccacta ccagaaccacta ccagaaccacta ccagaaccacta ccagaacacacta ccagaaccacta	SRIVLVVVXS YIRNQHRWTL LISACIFILV RIFRSIKQSM GLEERLYTAS SRDTEELQSP	ctcatccagc tggggctaag cccaggagca agcagtatgt agccaaccaa acagtgggca agaaccccct
and the contract of the contra	APWASIGISA KTCNNVSFEE LLCLALCELL YTGTLPLWVI FVAVVYALES RGRRRRTAI YARFTVGFAI PLSIIAFTNH VLLVKAAAFS YYRGDRNAMC	
		gctgggctgg tcttgctgtg gggcaggcac tgaggaggcc cattcaccct caaggatggg
tcctggtcgt cgtggctggc accaccct accaccct gcaacatcta tggtgtacgc cctgcatctt agacctgctt tcaccgttgg ggagcatcaa ccatcgcggt tcaaagccgc aaaggctgta accccattat accccattat accccattat acccaccagg ggggggggagct cggagagct accaccacg aggggtggaa ccgagagct accaccaca aggggtggaa ccatcgcgg ggtggagct acccaccaca acccaccaca ccgagaaccac ccgagaaccac accaccaca agggggggagca tgggggccacca ccgagaaccac accaccaca acccaccaca aggggagcatca acccaccaca aggggagcatca ccgagaaccac accaccaca agggagcatta agggagcatta aaggcatta	NGNATPVTT VLQGNVLAVY LFLCCISCDR QMDSRIAGYY FLVCFAPYHL ATDHSRQEVS	
agcaggatag tgcctgactg ctgctctgcc tatatccgca atcttcttct ttcgtggccg gaagacaagg tacgccaggt cggattttca aagcactcgg gttctcctcg ggcttggagg ggcttggagg ggcttggagg agaatcata aggccgtgct ctgtgcact tttctcgttc gggangca aggccgtgc tttctcgttc gggangca aggccgtgc tttctcgttc gggangca aggccagg ctgggcag cangacaca aggccagca ctgggcag cangacaca aggccag gggangca aggccag gggangca aggccag gggangca aggccag ctgggcangca ctgggcangca ctgggcangca agtgcangca aggcccac ctgggcangca aggcccac aggcccac aggcccag agtgcangca agtgccag gggangca agtgcangca aggcccag ctgggcangca aggcccag ggggangca aggcccag agtgccag ggtgcangca aggcccag aggcccag agtgccag agtgccag agtgccag agtgccag agtgccag agtgccag agtgccag agtgccag aggcccag aggcccag aggcccag agtgcccag agtgcccag aggccc		cgggtacagg ctgtgggcccc gggggtgccc tccaagaggg tgggcggagt gccaccagcc
	NP_037477.1	NM_004767
	160223 G Protein- Coupled Receptor G2A	160224 Endothelin Type B Receptor- Like Protein 2 (ETBR-LP- 2)
	160223	160224

4...........

Homo sabiens		Homo sapiens
iggt cctacagtge ctatgecate atgettetgg egetggtggt gtttgeggtg tigg geaacetgte ggteatgtge ategtgtgge acagetacta ectgaagage tact ccatecttge catecttge cagettgge ategtgggt ttetggteet ttettggteet etttttetgge tigg teatetteag agagteace aagaacectge caaagttggt gtteettgt tigg ectteatgga ggtetectet etgggaagtea egacttggtg cetteatgga ggtetectet etgggaagtea egacttgge caagttgget gteatetggg tgggetecat gacgetgget gat ecatectgge caagttgget gteatetggg tgggetecat gacgetgget gat ecatectggg caagttgget gteatetggg tectgaagac etgggageetgg etgggaagtea etggggggetggggggaagaaga egggaggetgggggggggg	YAIMLIALVY FAVINGENES VACIVHENY LKSAMNSILA SLALMDELVY EITKORLIALVY FAVINGENES VACIVHHENY LKSAMNSILA SLALMDELVY EITKORLIGD VSCRAVPEME VSSLGVITFS LCALGIDREH VATSTLPEVVK KLAVIWVGSM TLAVPELLLW QLAQEPAPTM GTLDSCIMKP SASIPESINS WWYFGCYFCL PILFTVTCQL VTWRVRGPPG RKSECRASKH EQCESQLNST CTLPENVCNI VVAYLSTELT RQTLDLLGLI NQFSTFFKGA ITPVLLLCIC CCCCCCEECG GASEASANG SDNKLKTEVS SSIYFHKPRE SPPLLPLGTP	fice cegggggagg ceatgaaege caeggggaec ceggtggece egagtectg A jetg geggecggcg ggeaeagecg geteattgtt etgeaetaea aceaeteggg ggee gggaegegg ggeeggegggggggggg
accgagagct ggcattgtgg gcctggaact ctcctattg cgtgccgtgc	YPVTESSYSA FFCLPIVIEN PIERCOSILA LVMTYQNARM VVGLTVVYAF RPLGQAFLDC	gagtcagccc ccaacagctg ccggctggcc ggtggccgcc ccacatgcgg gctcacggc ggcgcccgc cttcagcctg gagcgcctg gagcgcctg
		NM_003775
24 Endothelin Tvpe B	Receptor- Like Protein 2 (ETBR-LP- 2)	25 Sphingolipid NM_003775 Receptor Edg6
500 160224		501 160225

	<b>Homo</b> sapiens	Homo sapiens
tgggcctcta tggggccatc ttccgcctgg tgcaggccag cagcggccag cagcaagcc caccgcctgc tgaagacggt tcctggtgtg ctgtgggccca ctcttcgggc tgctgctggc tctggggccca ggaggcatgg actggatcct cagggggccatg cagcaggga actgggacct cacccttcc gcagcagggagggggggggg	HSRLIVLHYN HSGRLAGRGG PEDGGLGALR GLSVAASCLV P VYYCLVNITL SDLITGAAYL ANVLLSGART FRLAPAQWFL GERFATMVRP VAESGATKTS RVYGFIGLCW LLAALLGMLP SKRYILFCLV IFAGVLATIM GLYGAIFRLV QASGQKAPRP LVCWGPLFGL LLADVFGSNL WAQEYLRGMD WILALAVLNS FLCCGCLRLG MRGPGDCLAR AVEAHSGAST TDSSLRPRDS VRSI	agaacagcat gacctggatc actatttgtt teccattgtt A cagcatteca gecaatattg gatetetgtg tgtgtettte tgaactagga atttacetet teagtttgte actateagat ecetttatgg attgattata ettggaataa agacaactgg caaaggaat gettteetea tgtacatgaa gtttacage cattgecgtt gateggtatt tggetgttgt etaccettggata tgtcatgtg tgacgtatt tggetgttgt etaccettggata tgtcatgtg tggaagatg caccatetggata tgtcatgtg tggaagatg aaacagttgt tgaatattgc tacttatgc tatgacaaat accettaga gaaatggcaa gacgtgtaca ggctatgcaa tacetttggt caccatectg cacatetge agacgtaca agecaagga aaacaaggaa acttgtcag agacagtta etttagaga attacettgctgc attagaaga attagettact gattcgctgc atttagagc attettgtett atgetttact gattcgctgc atttagagc attttgtett atgetttact gattcgttac tgtttgtta etgtttgtta etgtttgtta etgttttgtta etgttttgtta etgttttgtta etgttttgtta etgtttgtta etgttttgtta etgtttgtta etgttttgtta etgttttgtta etgttttgtta etgtttgtta etgtttgtta etgttttgtta etgtaaaaagaaaa aaaaagaaaa aaaaagaaaa aaaaagaaaa aaaaagaaaa
tgggcctcta cagcggcccg tcctggtcca cggcggtcaa ggctcctctg ggcttcctcgg gctttcggg gctttcggg gctttcggg gcagggaacg aatgggctc aatgggctc tgggaagtcc tgggaagtcc		agaacagcat cagcattcca tgaactagga ccattgccgtt aagaagaatt tgtcatgttg tacttatgc gacgtgtaca ccaagctgtg acttgcagc aacttacaca aacttacaca aaatcgtga aaatcgtaca caaagatga
gecaccatea gececacec getetagec getetaace gectegece tgectggec caagggaca agcatecteca cgggtgece tgtatggga tetgaegea eegtagga tetgaegea eegtaggae tetgaegea	ESCQQLAAGG ITSHMRSRRW ASTFSLLFTA DRCSSLLPLY KTVLMILLAF SREVCRAVLS MREPLSSISS	catgtattga tgattatagt agaaggaaag cattaactct ctgccttgtg tcctcaaggac tcttcaatgc agtctcaatgc agtctcaatgc acttgttcag ggaaagtcta tcataaaact tgatgttgact tgatgttgact ttgctgatcc ttgctgatcc ttgctgatcc ttgctgatcc
eggegtectg egggeagaag getgatgate ggeectgge ggeegggae etetetgagg gecectge gtgeageac eagectege eagectege eccaecte eccaectet eccaectet aggetgeaag	MNATGTPVAP VLENLLVLAA REGLLFTALA LLGWNCLCAF AARKARRLL AVNPIIYSFR FRGSRSLSFR	atgaacagca tacatctttg ctgcaaccca ttactctatg actttctctc agcacagcat aagttttttt ttggaaacca gatgcgaaa atcaacctca atcaacctca accagcaat ttaaattgtg atgagaata cacagcaatt
	NP_003766.1	NM_003608
	Sphingolipid NP_003766. Receptor Edg6	T-Cell Death- Associated Gene 8 (GPR65)
	160225	160228
	502	503

Homo sapiens	Homo
 YIEVIIVSIP ANIGSLCVSF LQPKKESELG IYLFSLSLSD P TFSPALCKGS AFLMYMKFYS STAFLTCIAV DRYLAVVYPL LETIFNAVML WEDETVVEYC DAEKSNFTLC YDKYPLEKWQ ICNRKVYQAV RHNKATENKE KRRIIKLLVS ITVTFVLCFT HSNSGKRYYT MYRIVALTS LNCVADPILY CFVTETGRYD	
MNSTCIEEQH DLDHYLFPIV YIFVI. LLYALTLPIW IDYTWNKDNW TFSPA, KFFFLRTRRI ALMVSLSIWI LETIFF ININLERICT GYAIPLVTIL ICNRK PFHVMLLIRC ILEHAVNFED HSNSG	cogcagacta cgcaagctga ccgcaagctga tactacacagt agcgacctgc attgtttcca attgtttcca ctaggctggg ctaggctgga ctaggctgga ctaggctgga attttaaaat gtcattcca attttaaaat gtcattcca cagatcaga ccagagaca tcaactctt agcgacaaaa tgaaggatgg cctcctgaagg cctcctgaagg cctcctgaagg acaaattct aggaacaca ataactct aggaacaca ataactct aggaacaca ataactct aggaacaca ataactct aggaacaca ataactct aggaacaca ataactct aggaacaca ataactct aggaacaca ataactct atacacac ataactct acaaagga
NP_003599.1 sated	160300 Encephalopsi NM_014322 cgo n ggg ggg ggg ggt ggt cct cct cgt ggt ggt
504 160228 T-Cell Death- Associé Gene 8 (GPR65)	505 160300 Ence .

Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
AEGPAPAGTL, SPAPLFSPGT YERLALLLGS IGLLGVGNNL P VNISLSDLLV. SLFGVTFTFV SCLRNGWVWD TVGCVWDGFS IRVVHARVIN: FSWAWRAITY IWLYSLAWAG APLLGWNRYI SFVLFLFLGC LVVPLGVIAH CYGHILYSIR MLRCVEDLQT IFTFLVCWMP YIVICFLVVN, GHGHLVTPTI SIVSYLFAKS IGLLCLRLR, GORPAKDLPA AGSEWQIRPI VMSQKDGDRP ISVDDRYT GVOSLMIJOV RPI.	acctacaga acctacaga tttctgggca tttgctctctg ttgctctctg tctgctctcg cacqtggcca cacatcgggg aactgcctgg gtgctgtgcg cgcatctact cgcatctact cgcatctact cgcatctact cgcatctact cgcatctact cgcatctact cgcatctact cgcatctact	ggagggcaac acggtggtct ga TKETLETQET TSRQVASAFI VILCCAIVVE NLLVLIAVAR P LAGVAFVANT LLSGSVTLRL TPVQWFAREG SASITLSASV GSDKSCRMLL LIGASWLISL VLGGLPILGW NCLGHLEACS ILLAIVALYV RIYCVVRSSH ADMAAPQTLA LLKTVTIVLG VHSCPILYKA HYFFAVSTLN SILNPVIYTW RSRDLRREVL	attcatcttt cttttcaccg atcgtactac acgacacgta cattgcgttg geccgcgtc gagcagttct ctcggctgct taccggctgc, gaccgctcgt gtgctcaccg gcgtgctcat gtggtgaccc gcagcaaggc ctcagtgacc tgctcatcac
GYWDGGGAAG. RLRTPTHLLL TLTVLAYERY DWKSKDANDS KKLAKMCELM FMLAKFELM	tgtactcgga cgctggaaac gttgcgcat tccactcggc tggccttcgt agtggtttgc agagctgccg gcctgcccat ccatcctacgc ccgcccggc ccgcccggc agtgctggc agtgctggc accgcccgcat acccgtcct accccgccat	CCacgtttct PNKVQEHYNY FLGNLAASDL HVALAKVKLY VLCVVTIFSI SILLLDYACP	gcattctt tagcaaactc ggggaaatgt aggcgctta aggcgctta gacgcgccaa gcaatgctct tctttatctg
aaaaaaaaa 1 MYSGNRSGGH LVLVLYYKFQ GSLFGIVSIA LDVHGLGCTV IQVIKILKYE NTVYNVIKYI	atgggcaget accaaggaga gtcatcctct aacagcaagt ctggcaggcg acgcctcc ggcagcgaca gtcctcggtg actgtcctgc acctgttgg gtcttcttgc gtcctctttgg gtcctctcc ggccgctcc ccgggccaccc	cccacgtcac .1 MGSLYSEYIN NSKFHSAMYL FSLLAIAIER TVLPLYAKHY VEIVCWLPAF	atgatctgct ggcatctgct gcccactgcg acagcaatgc aacctgacgc gagctgccgg gcactctttg gtcaccaaca
NP_055137.	NM_004230	~	AF411117
160300 Encephalopsi n	2 Sphingolipid NM_00423 Receptor Edg5	160312 Sphingolipid NP_00422 Receptor Edg5	160314 G Protein- Coupled Receptor GPR103
	7 160312		
506	507	508	509

	Homo sapiens	Homosapiens
	۵.	4
tttcatttgc tatgacctgc gcaatacac cgtaggatca aaaggaacac caccttcatc tatgatggtg tatgatgtt ttttgctatc atttatgaat taaaaccttc agcaaagttt tggcaacatt tggcaacatt	KIGYELWIKK IEYSNFEKEY FSPAQRHGNS LFRSELAENS	cggattctga ttcggaaccc aaggaggcgg agcagaactg gcttggtgga gagaaatggg aagcatcatc caatgtggcag attcatcttaa ttggtccagg aggtcccagt attattatga catgtgcaag gtctactggt catgttccagt ttgttccagt attattatga catgtgcaag gtctactggt catgttccag
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	ENSMPRT2217 53	NM_004885
•	160314 G Protein- Coupled Receptor GPR103	160317 Neuropeptide NM_004885 FF 2 Receptor
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	Homo sapiens	Homosapiens
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tctccaaatg ttcggcaaca ggtttccaag tatacctaa tctacatttc caacagggat gagctagtgt tgggctagtgt tggctttgca ctctggcaaa tgtataaaaa	SRQSAGDRRR SSENWHPIWN IVMRNKHWHT VAASVFTLVA YYRVRLNSQN AAVPHTGRKN IINIYIYPFA SHVLINTSNQ	ggatgttaat aagggettt geaatgaaca ctgaatactt tacctcaaaa ctctctgact gtgatatttt agattcctca aaaacggtct ttgagcaaca ctggggetga tttatcctaa aagtccaaaa aagtccaaaa gtggetgtct ttatcctaa
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	NP_004876.1	MM_023914
	160317 Neuropeptide NP_004876. FF 2 Receptor	160324 G Protein- Coupled Receptor GPR86/GPR94/ P2Y13
	160317	160324
	512	. 513

	Homo sapiens	Homo sapiens
aaaaaagatt tataaaattt gcaacaagat aatttcaaga acaaaacctcc ggaactgaagt tacaaacagc agccattgc tacaaacagc agccactttg tcctttggaa ctcagcaatg tcctttggaa ctcagcaatg ttctttggaa ttctttggaa ttctttggaa ttctttggaa ttctttggaa ttctttggaa ttctttggaa ttttttctgg taagagtcta taagagtcta taagagtcta taagagtcta ttatactct acacgagctcc tgtcatcaccc tgtcatcactc acacgagctcc acacgagctcc tgtcatcactc acacgagctcc acacgagctcc acacgagctcc acacacactc acacacactc acacacactc acacacac	I IPSSSTEIIY P I VLLGLIAFDR / KKCASLKGPL K KLEGKVFVVV	g gcagcettec A tggggeteag g cagteatgtg g gcacceagac a cgcetteaat g acaccetgga t tggtgeeege
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	160324	160329
	514	515

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 160329 Proteinase-	NP_003941.1		VLGFSLSGGT	QTPSVYDESG	STGGGDDSTP	SILPAPRGYP		H d	Ношо
Activated		LELPDSSRAL	LLGWVPTRLV	PALYGLVLVV	GLPANGLALW	VLATQAPRLP	STMLLMNLAT	εΩ	sapiens
Receptor 4		ADLLLALALP	PRIAYHLRGQ	RWPFGEAACR	LATAALYGHM	YGSVLLLAAV	SLDRYLALVH		
		PLKARALKGR		WLMAAALALP	LTLQRQTFRL	ARSDRVLCHD	ALPLDAQASH		
		WOPAFTCLAL		LLCYGATLHT	LAASGRRYGH	ALRLTAWLA	SAVAFFVPSN		
		AUSYMULULA ROWNS	SPSAWGNLYG	AYVESTALST	LNSCVDFFIY YYVSAEFRDK	YYVSAEFRDK	VRAGLFQRSP		
		PDI VASIVASA	EGGSKGMGIR	. אחתכנ	•		•		

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Protein-	NM_005682	cggcagcagg					cttggctcat A	
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/XNI/GPR56		ctgcagacga			ctcttcctgg		ccacggcagg	
		ggccacaggg	aagactttcg	cttctgcagc		agacacacag	gagcagcctc	
		cactacaaac	ccacaccaga	cctdcdcatc	tccatcgaga	actecgaaga	ggccctcaca	
		gtccatgccc	cttccctgc	agcccaccct.	gcttcccgat, ccttccctga		cccaggggc	
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		cagaacatca	gcctgcccag		ttcaccttct	ccttccacag 1	tcctcccac	
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		ccgcagactt	tggaaagccc	aacgaccatg	gagagatggg	ccgttgccat	ggtggacgga	
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160330 G Protein-Coupled-Receptor TM7XN1/GPR56

Homo sapiens	Homo sapiens
gccatgctgc ctagggtact gtccccacat ctgtcccaac tccttacaac ccctgggccc agcctcattg ctgggggcca tggcacatcc ttaatcctgt gccctcttg gggacagaaa ctctcgtggt cacctgagg gcactctgca tcctctgtca cagggcgaat ggggcccagg gcactctgca tcctctgtca cagggcgaat ggggcccagg gcactctgca cctctgagcc ggardgrghre cacctgagc; agctcgccta cctctgagcc ggardgrghre clywnrhagr LHLLYGKRDF LLSDKASSLL TSWWSPQNIS LPSASFTFS FHSPPHTAAH NASVDMCELK SAAPASQOLQ SLESKLTSVR FMGDWVSFEE DRINATVWKL EINEYSVLLP RTLFQRTKGR; SGEAEKRLLL VDFSSQALFQ KVANLTEPVV LTFQHQLQPK NYTLQCVFWV EDPTLSSPGH HLTYFAVLMV SSVEVDAVHK HYLSLLSYVG CVVSALACLV YTIKVHWNLL LAVFLLDTSF; LLSEPVALTG SEAGCRASAI YRLVVEVFGT YVEGYLLKLS AMGWGFPIFL VTLVALVDVD MCWIRDSLVS YTINLGLFSL; VFLFNMAMLA TWVVQLLRLR LPPSSGSTSS SRI	a market strategy of the second of the secon
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160330 G Protein- NP_005673.13 Coupled- Receptor TM7XN1/GPR56	160387 Glucagon- Like Peptide 2 Receptor
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sapiens Ношо 4 gagctgggag ctgctgctgc tccgaggccc tgcttaaagg atcttggtta agggcagggg acageceee ggcaccctg gtcactggtg ttcagggtca ggtcctcgga cccagttta INKESVVMAY KTSAMRSNTR SYSLRSGDFP PPVPGGGGEE TSRPLSSPPG ctctgtccat actgagctga ctgggcattg gagtacacca agcctcaggg gatgcccctc cgggaagagg ccagtactcc agcatcatga gatgtggtga caggatggtg SINKESSRVF TTCACSHLTN DRNTIHKNLC LLVEVFESEY VSEVIVVNLV LOPRGGTSPY tgtcgttcct tctgaagtct LVARNPLOGY EEPLLLPRAQ'SVLYQSDLDE SESCTAEDGA gtgtccagaa ccccgggctc cacccacgtc cctgtgttcg, agcagcagga; gtacaaggag tegggacceg tggagctctg ENATVKLAGE AGPGGPGGAS LVVNSQVIAA CRLVESNKTH NYFIWSFIGE GLTWAFGLLF SPPGGTHGSL TESSFMAGDI, NSTPTLNRGT MGNHLLTNPV TLPLNGNENN NNLRGSSSAA KGPPPPEPPV SPEGPSEALP: PPPPAPPGPP, EIYYTSRPPA **E** gccgccgccg agtggggccc catgggctgg ggatgcgggc ctgtcgcctc ggagcacccg gaatgtaaat ccagccagca aggtcgactg cctggaccca tacactcacc cacggatggt gggcagccc ccctgtggat tgataatgcc tccaggggcc ggtgcactat acaccctacg, ggtgcgagca SLVCLAICIS TECFLRGLQT LCLEGVHLYL AAAIDYRSYG TEKACWLRVD SRLDNIKSWA LGAIALLFLL LGGREACGMD. tcccaacgcc agttcttctc: atgcccagac HYFFLAAFSW ttgacccggc, tgggagacca gccgctgcag cactgcccga tggcacaggc caggccacag tgccggagaa agggtgaggc agaccaagag aggatgtgac SMLGYWSTQG. cctgcgcccc ctgggtgggc: gtcggaaag ccccgacgaa,gtgccctggc; aggatgacaa gcaatgccgt CLRHSYCCIR tgagggtttg gcccctggag ctgtcagggc aggggtctgg gaacccgtgg gtgaccaggg WISI cttctgtgg NCS FWNYSER SVITWVGIVI IACPIFAGLL QKKVHKEYSK PGSYREPKHP EKMIISELVH GPDGDGQMQL gccgccgccg ggcgtcccc ccqccactat tcttcggggg ctctacacca cacgatggcc cctgaaggct ggcaagctca tcctgcaagc gacccggacg cgctccaacc ctggatcgtg gaggtgctca cgcctgctgg ggggtgatcc gtagaggcaa caggtgaggg gacaagggga ttttatctgg accaaggagt tattctgtac cccagctac ctttgatagc tcggggacag YNNLGLFLST HLEDKNHENA YOGRINELLL LVGIDKTQYE RSSSVLKPDS RMWNDTVRKQ NPSSPPVFNS GRNLADAAAF AEIELLYKAL LRDSPSYPDS YLAAPGLEGP aggaggagcc cccggccacc gctgctgccg gggacgaggc gaacctctgg ggtacccac accaccagct ttccccacag cagatgccag agaagagtcc gagggccatc agccgaggag ccacggcatg tgaccatgac ggttggctat ccctcqctct ccagctgacg cgctgttttc ctatgtggtc ctcggatcga ctatgagacg YCFPALVVGI VFI EVFHCAL cagtaaccac NGVVKVVFIL LFTTFNAFOG YYTGTQSRIR NTLIAESVGF EAGGPGGADR tgttgctgct aaaggtcacc agttccagcc agaacctgga ttgagatcga gtaccacage gtggcaatgc LMDPVI FTVA FAVLMAHREI INLFLAELLF SRTKYYYLGG FLMVTLHKMI PGDGGPEPPR RDSLYASGAN YOVRRPSHEG taggagccgg agatgcggag tggggtccag cctcagcgtc ctggccacct atattccct gaggccacct ctccacggct ttgcatccct tggatgccct cggcgcagga ctgacaccaa ccaatgccaa tggaatccta gtgagaagcg gagtcacago gccctcttga

160390 Cadherin EGF NM\_001408 LAG Seven-

LAG Seven-Pass G-Type Receptor 2 (CELSR2)

tcagatagtc cgctcaagca gcctccacgg tcacccgage ctggccacgc cgtgatgctc cttgagcggc tatacagtga cagttccgca gaccaagtgt atctcagcca ggcgacgatg cggaggctgg aatccccctg atgtaccaga gagctgacag aatgacaacc gtgaccatca ggggccaca acgaaattaa tgtggcccc ggctacacgg tgcaagaatg agctttgggg agcgtgactg gtgcggctca tccatcacca cagattgtgg acggatgagg cgagactcct gggatgccc gggctagccg caggccacgt atcatgagcg acggccatct tgcgagaact gactactact ccgcccggct tctggagact aatddcacad gacaccacct gtgggacatg acttccctt; caccatcaac tgatttctac ggccagtgtc agagtacaca tgacggtgtc agctgtggac atcaccagtg.gcaatactcg.aaaccgcttc ggactacaaa ggacacggca gageteceae gatcagcgcc tcatggagga, cagcatccc ggactacgaa ccagaagtcc tcagttcctg cgtcctgcag tcttctacac: cttccaagga gcgaacgcta gggcatatgc; agtggacaag ctgtgttgga; tgtgaatgac cagccccatt tgcccagatt cttctccggg cctggtcatc ccttgaccgc tgtcaccaat ccctgatatc cctdctcaat tctggaggcc cgcgctgcgt ggaggacatg ggccgccacg cgacgcccc cgggggcggg cagcctgctg gcgggagccc gcccttcatc ctgccgctgc ctcgcggccc ctgtcgtgat cccgggtgtc cgattgccca caggcatcgt gtttcaagtg gggaggaagt ttacccaacc. gcctccgatg gcactcggca ctgtctttca atggcattcc ctgcccatga tcagcctggt tcactgcctc ccctdccact cggtggtgct gtcaccaccc aggctgagct gacgtgaatg.acaatgcccc tggaagagaa aaggcaccaa agctggacat acgtccgcct tcaacaacta acaaccggcc cacagogtga, cogocoagtg cacagcatca, cgctgcgcct agcgggacac gagggctgcg acctctqcta gccgttgcac ccttcactag ctgagtacgt tccaggcggt cgccagggcc acctcaaccg acatctgcct actecteege acacctgcct tatgtcttgc gaggtcttcc acccatcgtc ' atcacctact gctcgggaca gatgtgccac aatggcaggg gtgacagtca gatgtgtttg gaggaccggc gctacagtcc gagatccttt ggccgagtac ggaaatgaac gcactggaca ggcctcttca ttcaacgtac gtgggccagc ttcgacgaca ctgcgcttcg gagggcggct gctcgctcag actccagcac aatccaacct accagcgtgg gcaggcacca gagtccacgt gaccccgatg gagcgcctat caccccgtcg accgaggtgg ctggtgggcg gaactggacc gtatcccttg ccttgctggg agaccatggc caacgacaac agctgtgggc cacctaccag tggtgggctg ggctgttacc cgacgccaac ggaccggccg gaatgcccgc cacgggggct ggccattact cctggtgaac tgtctatgag ctttattgtt cgtggcccag acctatggaa ggatgagttt caacatccct cttagactac ggtgagccgg gggcaacttt gggtgccatt ctttgagcgg gctaagccgc agacggcgta gatgctcacc accactgcta cgtggtggtc gagcctgtcg ggacctgcag cgtgctgccc cgtgtcggtg ccggcccatc ctactgcgag ccgcagccgc tgaggtgagt tgtcaacctg tgtggctgct ttctggactt cacagccact ttgtggaggg tggaataccg tagaagctcg tcctggatgt atgaggatgc atagtgtcat gccaaagtgg agtatgtgt tgaatgtcac atgttaatga acacaggtga tcgatgcaga acctggagat accagggcag gagacggtga atcgagagaa cagcccgcac tctttgagca tggcccgggt gcttccctgg tgacttacag gtgagctgaa tgctggtgtc tcaccgatga gcttcctgtc caccggacca tcctcaacgt tgccctctga cggcacagcg tcacgggtga acgggcgctg gtgagcactg gggcacctg gctggatctc cttacaccct ctgatcgtga ccctggtaga cagctcctct caccagtgct acatgcgctg ccgtgctctt

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	Ното заріепs	
attcatttt tttatacgct ctccaggat gcttcccagc gggactcctg gggggcctgc cgcagccagg gcttcacacc ccagggcaaa gggtgttgtct ctgtccggtg agggggcaga cattttcagg ggagcctgtg tcctggactc tggccgtgcg cttcatttt cgtgccgtgcg cttcattttt cgtgccgtgcg ctttgctgtg atgtgggtgg gggtgctcaa tcaagcacag ccccaaaat cagacacag	tetececgae tecaceceag ttgetttttg egttgggatg ggetggtgt teceageage catcatetec ceacetetec caccatttae tecaageatg getagaaaaa gaggetgtgg cetetggett tetgeegtg atgetaaaaa ttaactggt atgetaactt gatactaace cgttttgttg ttgttgtttt t GDQVGPCRS1 GSRGRGSSGA RVWCPESEAH IPLPPAPEGC AQAPGLRAGE RSPEESLGGR GEAGRLEYTM DALFDSRSNQ	AQDHGMPRRS ALATLTILVT DTNDHDPVFE QQEYKESLRE NANILYRLEE GSGGSPSEVF EIDPRSGVIR TRGPVDREEV TTAAVELSVE DDNDNAPQFS EKRYVVQVRE DVTPGAPVLR GNARGQFYLD AQTGALDVVS PLDYETTKEY TLRVRAQDGG NAPIEVSTPF QATVLESVPL GYLVLHVQAL DADAGDNARL WISVAAELDR EEVDFYSFGV EARDHGTPAL TASASVSVTV EDAAVCTSVV TVSAVDRDAH SVITYQITSG NTRNRFSITS YVLAVTASDG TRQDTAQIVV NVTDANTHRP VFQSSHYTVN TGENARITYF MEDSIPQFRI DADTGAVTTQ AELDYEDQVS LEILVNDVND NAPQFLRDSY QGSVYEDVPP FTSVLQISAT DGDFIVESTS GIVRTLRRLD RENVAQYVLR AYAVDKGMPP
	aatattty t gottccatt coactfcctt coactfcctt tttccatt tttccatt tttctcatt ccctcagcaa aaaaaatcaa tyttgctgta ataaactagt PTPPPDLLLL PTPPPDLLLL	TKSTHVERVI J VRATDGDAFP DQGRDEGERS I NAVVHYSIMS O VTVQVLDIND D PEPTINNGG V TQPETINNGG V TQPETINNGG V TQPETINNGG V TQPETINNGG V TQPETINNGG V TQPETINNGG V TQPETINNGG V TQPETINNGG V TQPETINNGG V
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Homo sapiens

VEGNIFEUVEO LDIESGELTA LUDLDYEDRE EYVLVIQATS, APLYSEATHY VRLLDRNUNNERSERIASTER ALGARETIE SUVLINASTER ELYGRAGERE SUVELNASTER ELYGRAGERE SUVELNASTER ELYGRAGERE LINYSINASTER ELYGRAGERE LINYSINAGE ELGEBELTASS VISCOLARIANTE VARIANTE PROVINCERTUN INTERECTORY RECORDERED ENGYSTREE STATESTASS VLEREIGARS CHARCHARDE TGDYCETEVO LOTSRECCHY GROCYTRE SEARTHASS THE PRINCEPTER CHARCHARDE TGDYCETEVO LOTSRECCHY GROCYTRE SEARTHASTER ELECKGRARG CHARCHARDE TGDYCETEVO LOTSRECCHY GROCYTRE SEARTHANGTY CHARCHARDE TGDYCETEVO LOTSRECCHY OF TGDYCETEVO CHARCHARDE STATESTAVE SELLGRANGER DELLAGORDE WICHTAGEN WANDESCER FORCETEVO CHARCHARDE STATESTAVE SELLGRANGER OGNINGWAY METHODER NETHINGHER RITHLIGHER CASKINDOMH HAQLIAGASG GREGALIATRY GYCKARNIO VOSHINDAD GYLLGGASSIALE BRANDOMH HAQLIAGASG GREGALIATRY CHARCHARDE SURVEREDE CLOGYRSET CROSSIALLE PRANDICHE CLOGYRSET CROSSIALLE NATORIALES NATORIACHE NATORIACH CONTROL AND STATESTALLE STANCTORE VALORICAL CASCINATION KRHWELLOGY. GGDYARALLIN NATORIACH CONTROL AND STATESTALL NATORIACH CONTROL AND STATESTAL CLOGYRSET CLOGYRSET CONTROL AND STATESTAL CLOGYRSET CONTROL AND STATESTAL CLOGYRSET CLO
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tgtggcagat agaactcgag gaatgaggac gtgctaccag ctgacgcagc gtaaaaaga gtatatacac taggcctgca tgtaccttac cagttcactg atcaagccac ccaactgaaa cttcagacac ggcatcaacc taatgacagc cgageteaeg gaaagtgaag tcacctacag tccctatccg atacagctaa ggtattttaa cagccattt acttacattt gcattcaaac tggcgctttc taatgaggag gttcattttc aatgtggaat tagcacttca ggatactcta aatgatcatt gtgtattcca aaaatggcta tgaagccagt cttgtttcct agaaaagct taccttcatt accctdtt ttagagactc ggaggagtga acaaatgcag ctggttacaa gtctttaatc acaaagaagg caccattggc gttctctggt caaaactttc attctcatga acatttgtgt tttgtcatgg taagttctac tgacaaagtt'agtctttatt tctagaaaag attgtgtgtc ttgctggtta caagtgccat caacagetac'tegetgeaca, agggtgacta cttttgagaa atgatgctat tccatcacaa cttctgtacc aaccccagaa agcttcagat caaaaacttt atgccagcca acaaatttac catcagtttg accactagca attgtgaaaa atggggagaa acaaactctt ggtgtgcagc.tctacctaat gactataaga, gctatggaac ttggacctgt aaatggtgaa cttgggtgct tgctttttat tttaatgctt.tccagggagt cgaaaagaat'atggcaagtg gttcagtgaa gtataagaag gtgacatcaa ctcacaacct aggctgaaga accatttttq cctcacctgg tcctttgggt; tggaggtagc, agcagtgaag cgacaaccea; gggctggagc agaagacete teteceteca; aaatcttgga, gctggccatc aggetttaaa ateetgtggg aaagcaggag agatattctg. cctcaactgt acaatgaact tgaagaaat tgtctcccaa ctgacagcag tggttatata, atccccatta, cgagtattaa¦taaataaaga; gagatgacte ttgacetgtg atttgttaca. aagaaaagag' aaattgtgaa acaagcaaaa attgctaggg.taaaataaat tattactatg cttggtgatc:acattgtgca' cccaactgag, agtccccaca ttcctctggc acacagagtc cttacggggc agcagcaaga atgcccaatc gtgaattttt;ataaaacata' aaatttgtaa atatggctgc , aacatgctta tggagcttca caggttggaa; aacattaagt agaatcttct: tttatctcag gccagggata aatgatactg actgaacaat aaagaaagta gtgcctagaa aaggaaaaa agctgctatt ctactttata cttcactata actaagtctg, gactcactcc ttatacaagc aaagattgaa, ttttaaagag tttcttacac tgttctgctt aacgtgttt agtgatgaaa acattaaggc cttgcacaaa ctgtttagag aagacttgga ttgcttggat gtgaatattc ttggagtttc atgttgataa atattatctt cagattctag gtgctctcca gtgctcgcta gaaaacaatc aaggacattc gtaattttaa tggactgtgg tgcacaacaa aacctgtgat taatgcacag ttcctcagcg ctgacagcta gagactctct ctgacatgga aaagcatgcc gcaatagtga ttagagaagg gggccacatg tctgcttgaa ttgcagttct aaagtgaatt tctgtgaact tacaagacgt tcatatgttt attttgttct attaaaataa tgaaatgttt ctgtatacag ttgccaaaag gtcttcttgg tggcatatct gtggaggcct aagaaattat tatgtcatgc actattgtga gcttcatctt atcagcaggg ggaattccaa tccctcaaac tgactgaacc agagtatact ttgtattata tattcctgac aggccttatt tataattgtc gcacatgtta ttctttcca ttggcagctt gtttttgaaa gccacagtgg tgctggcttc attctgctaa actttgaaac gctcttctgt atcttcact tcatactgct accagaacca gatactgtga acacttaatc ccgctaaatg gtgcaagttg tcagaattag ctaccagtca gcaccactta tccgagggaa tccccaaca gagagcagcc atttactata gaaggagatg gattctgctg actgcagcag caaatctttt aaatttctta

attottgaac agagggcaaa gagggcactg ggcacttoto acaaacttto tagtgaacaa aaggtgcota ttotttttt

SEQ ID	OIST	Gene	Source ID		Peptide	ζ	SpeciesName
S	701	C LITT A DOCUMENT	80000	303			
760	/7!	5-HILA Keceptor	FUSYUS	262	CAPASTEICKIVEICAEAKIC		Homo sapiens
653	12/	SHITA Receptor	F08908	808	GRIFRAARFRIRKTVKKVE	Ī	Homo sapiens
694	127	5-HT1A Receptor	P08908	910	RTPEDRSDPDACTISK	Ī	Homo sapiens
969	127	5-HT1A Receptor	P08908	612	RHGASPAPQPKKSVNGE	Ī	Homo saplens
969	128	5-HT1B Receptor	P28222	585	KOTPNŘÍGKRLTRAQUID	Ī	Homo saplens
269	128	5-HT1B Receptor	P28222	586	SPGSTSSVTSINSRVPD	Ĩ	Homo sapiens
869	128	5-HT1B Receptor	P28222	268	KVRVSDALLEKKKLMA	Í	Homo saplens
669	128	5-HT1B Receptor	P28222	266	ANLSSAPSQNCSAKD	Ĭ	Homo sapiens
8	129	5-HT1D Receptor	P28221	577	IKLADSÁLERKRISAA	Î	Homo sapiens
5	129	5-HT1D Receptor	P28221	588	<b>GEASNRSLNATETSEA</b>	Î	Homo saplens
202	129	5-HTID Receptor	P28221	289	RIYRAARNRILNPPSL	Í	Homo saplens
න න	129	5-HT1D Receptor	P28221	260	KAQEEMSDCLVNTSQIS	Ï	Homo sapiens
8	33	5-HT1E Receptor	P28566	815	RHLSNRSTDSQNSFASC	Ī	Homo sapiens
355	130	5-HT1E Receptor	P28566	817	CTTEASMAIRPKTITEKM	Ĩ.	Homo saplens
38	330	5-HT1E Receptor	P28566	818	DNDLDHPGERQQISST	Í	Homo sapiens
707	130	5-HT1E Receptor	P28566	2738	CVSDFSTSDPTTEFEK	Í	Homo sapiens
708	اع 8	5-HT1E Receptor	P28566	2739	RIYHAAKSLYQKRGSSR	Ï	Homo sapiens
200	131	5-HT1F Receptor	P30939		ESGEKSTKSVSTSYVL	Ï	Homo saplens
710	13)	5-HT1F Receptor	P30939	909	<b>DKCKISEEMSNFLAWLG</b>	Ĭ	Homo saplens
711	131	5-HT1F Receptor	P30939	864	IAKEEVNGQVLLESGE	I	Homo sapiens
712	131	5-HT1F Receptor	P30939	698	STVRSLRSEFKHEKSWR	I	Homo sapiens
713	132	5-HT2A Receptor	CAA01675.1	1106	DAFNWTVDSENRINLSC	Ι	Homo sapiens
714	132	5-HT2A Receptor	CAA01675.1	1107	FGLQDDSKVFKEGSC	I	Homo sapiens
715	132	5-HT2A Receptor	CAA01675.1	1108	<b>PGSYTGRRTMQSISNEQKAC</b>		Homo sapiens
716	132	5-HT2A Receptor	CAA01675.1	1109	CSMVALGKQHSEEASKDNSD		Homo sapiens
717	132	5-HT2A Receptor	CAA01675.1	0111	NTPALAYKSSQLQMGQ	r	Homo sapiens
718	133	5-HT2B Receptor	P41595	ווו	KGIETDVDNPNNITC	I	Homo saplens
719	133	5-HT2B Receptor	P41595	1112	<b>CSSPEKVAMLDGSRKDKA</b>	I	Homo sapiens
720	133	5-HT2B Receptor	P41595	1113	RRTSTIGKKSVQTISNE	I	Homo sapiens
721	133	5-HT2B Receptor	P41595	1114	CNYRATKSVKTLRKRSSK	I	Homo sapiens
722	133	5-HT2B Receptor	P41595	1187	SGLQTESIPEEMKQIVEEQG	_	Homo sapiens
723	34	5-HT2C Receptor	P28335		CKRNTAEEENSANPNØDØNA	_	Homo sapiens
724	<u>134</u>	5-HT2C Receptor	P28335	1116	GHTEEPPGLSLDFLKC	I	Homo sapiens
725	134	5-HT2C Receptor	P28335	. 2111	CNYKVEKKPPVRQIPRV	I	Homo sapiens
726	134	5-HT2C Receptor	P28335	1118	IGLRDEEKVFVNNTTC	I	Homo sapiens

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Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Rattus norvegicus	Rattus norvegicus	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Canis familiaris	Homo saplens	Homo sapiens	Homo saplens	Homo saplens
RHTNEPVIEKASDNEP	CDISVSPVAAIVTDIENTSD	DGGRFKFPDGVQNWPALS	NNIGIIDÜLEKRKFNQ	ESRPGSADQHSTHRMR	CDDERYRRPSILGGIVP	<b>RDAVECGGQWESQCHPPATS</b>	VTAKEHAHQIQMLQRAGASSESRP	KSFRRAFUILCCDDE	VTAKEHAHQIQMLQRAGA	KEHAHQIQMLQRAGA	VIAKEHAHQIQMLQR	RIPRPGVESADSRRLATK	CPRERGASLASPSLRTS	PLFMRDFKRALGRFLPC	RAAAAVNFFNIDPAEPE	<b>EVTASPAPTWDAPPDNASGC</b>	KAARKSAAKHKFPGFPRVE	CANLSRLLKHERKNISIFKR	KLAERPERPEFVLRAC	CHKPSILTYIAIFLT	NGSMGEPVIKCEFEKVISME	NKKVSASSGDPQKYYGKELK	<b>NDHFRCQPAPPIDEDLPEER</b>	CQPKPPIDEDLPEEKAED	QPKPPIDEDLPEEKAED	MPPSISAFQAAYIGIEVU	<b>QGNIGIPDVELLSHELKGVC</b>	MPIMGSSVYITVELAIA	RSHVLRQQEPFKAAGT	RIREFROTFRKIIRSH	KDSATNNCTEPWDGTTNES	CROLGIRELMDHSRTTLQRE	RNRDFRYTFHKIISRYLLC	CQADVKSGNGQAGVQP
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1119	1829	1830	654	929	<b>6</b> 56	657	2682	2683	2684	2685	2686	\$4	<b>6</b> 50	652	653	658	629	999	<b>663</b>	<b>∞</b>	۰	9	=	286	302	303	1237	1238	1239	1240	929	229	8/9	629
P28335	NP 000859.1	NP_000859.1	CAA73107.1	CAA73107.1	CAA73107.1	CAA73107.1	CAA73107.1	CAA73107.1	CAA73107.1	CAA73107.1	CAA73107.1	P50406	P50406	P50406	P50406	P34969	P34969	P34969	P34969	AAA17544.1	AAA17544.1	AAA17544.1	AAA17544.1	P25099	P25099	AAA17544.1	P29274	P29274	P29274	P11617	P29275	P29275	P29275	P29275
5-HT2C Receptor	5-HT2C Receptor	5-HT2C Receptor	5-HT4 Receptor	5-HT4 Receptor	5-HT4 Receptor	5-HT4 Receptor	5-HT4 Receptor	5-HT4 Receptor	5-HT4 Receptor	5-HT4 Receptor	5-HT4 Receptor	5-HT6 Receptor	5-HT6 Receptor	5-HT6 Receptor	5-HT6 Receptor	5-HT7 Receptor	5-HT7 Receptor	5-HT7 Receptor	5-HT7 Receptor	Adenosine A1 Receptor	Adenosine A1 Receptor	Adenosine A1 Receptor		Adenosine A1 Receptor	Adenosine A1 Receptor	Adenosine A1 Receptor	Adenosine A2a Receptor	Adenosine A2a Receptor	Adenosine A2a Receptor	Adenosine A2a Receptor	Adenosine A2b Receptor	Adenosine A2b Receptor	Adenosine A2b Receptor	Adenosine A2b Receptor
134	<u> </u>	134	136	38	136	136	8	138	3%	136	136	138	138	138	138	139	139	139	139	272	272	272	272	272	272	272	273	273	273	273	274	274	274	274
727	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	151	752	753	<b>2</b> 5	755	756	757	758	759	98	76]	762

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Homo sapiens Homo sapiens Homo sapiens Homo sapiens Homo sapiens Homo sapiens	Homo sapiens	Homo sapiens
CVTLFQPAQGKNKPKW MILETQDALYVALELVIAAL IFYIIRNKLSLNISNSKE NMKLTSEYHRNVTFLSC AYKIKKFKETYLLILKAC TGAFYGREFKTAKSJF KRVTTHRRIWLALGLC CPRVVLPEEIFTIS	MGYLKPRGSFETTADDIIDS RYHSIVTMRRTVVVLT AFRSPELRDAFKKMIFC RSTTRSLEAGVKRERGKASE KEPVPPDERFCGITEEAG RSTEMVQRLRMEAVQ PRPSCAPKSPACRTRSP KEMSNSKELTLRIHSK GGSLERSQSRKDSLDDSGSC	APEPPGRRGRHDSGPL KLITEPESPGTDGGASNGGC GSGMASAKTKHFSVR RIPVGSRETFYRISKTDGVC SSMPRGSARITVSKDGSC ESRGLKSGLKTDKSDS ERRPNGLGPERSAGPG PGEPAPAGPRDTDALD RGPRGKCKARASQVKPGD RGPRGKCKARASQVKPGD RGPRGKGKARASQVKPGD RGPAGKGRARASQVKPGD RGPAGKGRARASQVKPGD RGPAGKGKARASQVKPGD RGPAGKGKARASQVKPGD RGPAGKGKARASQVKPGD RGPGGCPQPRGRRGCE RVGAAKASRWRGRQNRE IVKGDQGPQPRGRRQC
680 2714 683 686 687 689 2296	5	698 699 1245 1246 1343 1344 1346 1348
P29275 P29275 P33765 P33765 P33765 P33765 P33765 CAA46587.1	CAA46587.1 CAA46587.1 CAA46587.1 AAA35496.1 AAA35496.1 AAA35496.1 AAA35496.1 P35368 P35368	P35368 P35368 AAA93114.1 AAA93114.1 AAAA93114.1 AAAA93114.1 P08913 P08913 P08913 P08913
Adenosine A2b Receptor Adenosine A2b Receptor Adenosine A3 Receptor Adenosine A3 Receptor Adenosine A3 Receptor Adenosine A3 Receptor Adenocortin 2 Receptor Melanocortin 2 Receptor (adrenocorticotropic	hormone) (MC2R) Melanocortin 2 Receptor (adrenocorticotropic hormone) (MC2R) Melanocortin 2 Receptor (adrenocortin 2 Receptor (adrenocorticotropic hormone) (MC2R) Melanocortin 2 Receptor Alpha 1d-adrenoceptor Alpha 1d-adrenoceptor Alpha 1d-adrenoceptor Alpha 1d-adrenoceptor Alpha 1b-adrenoceptor Alpha 1b-adrenoceptor	Alpha 1b-adrenoceptor Alpha 1b-adrenoceptor Alpha 1c-adrenoceptor Alpha 1c-adrenoceptor Alpha 1c-adrenoceptor Alpha 1c-adrenoceptor Alpha 2a-adrenoceptor
274 274 275 275 275 275 309		377 377 379 379 379 387 387 387 387

Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens		Homo saplens	
RSNRRGPRAKGGPGGGE	ASAREVNGHSKSTGEK	RGVGAIGGQWWRRRAH	RAPVGPDGASPTTENG	RTGTARPRPTWSRTR	ASRSPGPGGRLSRASS	RSVEFFLSRRRRARSSVC	PMASGR@@RRR@ARVTC	NYHILASLRTREEVSR	RVRGPKDSKTTAULT	VGRLFRTKVWELYKQC	FRIMKEYSDEGHNVIAC	<b>CTMQIMQVLRNNEMQKFKE</b>	CQDERIIDVITQIASFM	CRSEPIQMENSMGTLRTS	RVFREAGKQVKKIDSC	CERRFLGGPARPPSPS	ANGRAGKRRPSRLVALRE	CARRAARRHATHGDRPRAS	CLARPGPPSPGAASD	CNGGAAADSDSSLDEP	KRQLQKIDKSEGRFHV	<b>GEQSGYHVEQEKENKLLC</b>	<b>APNRSHAPDHDVTQQR</b>	VPLVIMVFVYSRVFQE	RGELGRFPPEESPPAP	SRSLAPAPVGTCAPPE	GVPACGRRPARLLPLRE	PSGVPAARSSPAQPRLC	<b>EEEFYLFKNISSVGPWDGPQ</b>	CGPDWYTVGTKYRSESYT	NNRNHGLDLRLVTIPS	IMKMVCGKAMTDESDT	SITNDTESSSSVVSNDNTNK		KAVVKPLERQPSNAILKTC	•
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1349	1350	1351	1352	1353	1354	1355	798	7%	800	108	794	. 362	796	797	1357	1358	1359	1360	1361	1362	2654	2656	. 5062	2003	1390	1361	1392	1393	1753	1754	1755	.92/1	8		, 21	
P18089	P18089	P18089	P18825	P18825	P18825	P18825	P46663	P46663	P46663	P46663	AAB02793.1	AAB02793.1	AAB02793.1	AAB02793.1	AAA51667.1	AAA51667.1	AAA51667.1	AAA51667.1	AAA51667.1	AAA51667.1	NP_000015.1	NP_000015.1	NP_000015.1	NP_000015.1	P13945	P13945	P13945	P13945	NP_001699.1	NP_001699.1	NP_001699.1	NP_001699.1	AAA35604.1		AAA35604.1	
Alpha 2b-adrenoceptor	Alpha 2b-adrenoceptor	Alpha 2b-adrenoceptor	Alpha 2c-adrenoceptor	Alpha 2c-adrenoceptor	Alpha 2c-adrenoceptor	Alpha 2c-adrenoceptor	<b>Bradykinin B1 Receptor</b>	Bradykinin B1 Receptor	Bradykinin B1 Receptor	BradykinIn B1 Receptor	<b>BradykinIn B2 Receptor</b>	<b>BradykinIn B2 Receptor</b>	<b>Bradykinin B2 Receptor</b>	<b>Bradykinin B2 Receptor</b>	Beta-1 adrenoceptor	Beta-2 adrenoceptor	Beta-2 adrenoceptor	Beta-2 adrenoceptor	Beta-2 adrenoceptor	Beta-3 adrenoceptor	Beta-3 adrenoceptor	Beta-3 adrenoceptor	Beta-3 adrenoceptor	Opsin, blue-sensitive	Opsin, blue-sensitive	Opsin, blue-sensitive	Opsin, blue-sensitive	Bombesin Receptor	Subtype-3	Bombesin Receptor	Subtype-3					
388	388	388	389	389	389	389	200	28	200	28	8	8	8	8	635	635	635	635	635	635	3	8	84	840	643	643	543	543	688	889	889	889	692		692	
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7	2	79	7	7	7	26	7	ဆ	8	ဆ	ဆ	စ္ထ	ထ	ဆ	စ္ထ	ಜ	ဆ	8	8	812	813	814	815	816	817	818	819	820	82	822	823	824	82		826	

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	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens		Homo sapiens	:	Homo sapiens		Homo sapiens	:	Homo sapiens	Homo sapiens		Homo saplens	Homo saplens		Homo saplens		Homo saplens		Homo sapiens		Homo sapiens	Homo sapiens	Homo sapiens
	KILHQLKRCQNHNKTKAIR	SQIFNYLGRQMPRESC	FVGEKFKKHLSEIFQKSC	ENFSSSYDYGENESDSC	CYAHILAVLLVSRGQRRURA	MVLEVSDHQVLNDAEVAALL	CPNQRGLQRQPSSSRRD	TEEMGSGDYDSMKEPC	KKLRSMTDKYRLHLSVAD	CIIISKLSHSKGHQKRKALK	KILSKGKRGGHSSVSTE	ENRSLENIVQPPGEMNDRLD	KIPSGFPIEDHETSPLDNSD		RKKARQSIQGILEAAFSEE		PQTFQRPSADSLPRGSARLT		DLNTPVDKTSNTLRVPD		CGVDYSHDKRRERAVAIVRL	CYTFILLRTWSRRATRSTK		<b>GGRLRKSLPSLLRNVLTE</b>	AELEESPEDSIQLGVTR		EFVUPWRPEGKIAEEV		RRNWNQYKIQFGNSFSNSE		RSASYTVSTISDGPGYSHDC		NDIQYEDIKGDMASKLG	KENEENIQCGENFMDIE	EDGKVQVTRPDQARMDIR
•	360	362	493	1371	1372	1373	1374	1376	1377	1380	1381	. 25		•	27		28	-			812	813		814	841	•	843		848 44		845		29	&	33
	P51685	P51685	P51685	P49682	P49682	P49682	P49682	P30991	P30991	P30991	P30991	AAC50657.1	AAC50657.1		AAC50657.1		AAC50657.1		P21730		P21730	P21730		P21730	Q16602		Q16602		Q16602		Q16602		AAB18200.1	AAB18200.1	AAB18200.1
	C-C Chemokine Receptor 8	C-C Chemokine Receptor 8	C-C Chemokine Receptor 8	CXC Chemokine Receptor 3	CXC Chemokine Receptor 4	Complement Component	Complement Component	3a Receptor 1	Complement Component	3a Receptor 1	Complement Component	3a Receptor 1	Complement Component	or receptor .	Complement Component 5a Receptor 1	Complement Component	Sa Receptor 1	Complement Component 5a Receptor 1	Calcitonin Receptor-like	Receptor	Calcitonin Receptor-like	Receptor	Calcitonin Receptor-like	receptor .	Calcitonin Receptor-like	Receptor	Cannabinoid Receptor 1	Cannabinoid Receptor 1	Cannabinoid Receptor 1						
	742	742	742	752	752	752	752	753	753	753	753	755	755		755		755	i	758	i	758	758		758	792		767		767		767	9	832	832	832
	857	858	859	860	861	862	863	864	865	998	867	88	869		870	Í	871		872	6	873	874		875	876		877		878		879		880	88	882

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Homo sapiens Homo sapiens Homo sapiens Homo sapiens Homo sapiens Homo sapiens	Homo sapiens Homo sapiens Homo sapiens Homo sapiens Homo sapiens Homo sapiens	Homo sapiens	Homo sapiens Homo sapiens Homo sapiens	Homo sapiens Homo sapiens Homo sapiens Homo sapiens Homo sapiens
CEGTAQPLDNSMGDSD MKSILDGLADTTFR NKSLSSFKENEENIQC KDGLDSNPMKDYMILSGPQK QDRQVPGMARMRLDVRLAKT KEEAPRSSVTETEADGK RSGEIRSSAHHCLAHWKKC	GRDPPAKDVMPGPRGELLC CSPGYEPVSGAKTFKN FSSFSEIITPTETC CRPGWKPRHGIPNNGK DGEAGRDPPAKDVMPGPR ANASLNLHSKKQAELE RLSAVNSIFISHNNTKE	KLIGKFSEINPUMKKL KLVDELMEAPGDVEAL RFDKVQDLGRDSKTSS RAEYLDIESKVINKEC CVMHSWEGHIRPTRKPNTK CLLNGQVREEYKRWITGKTKP CLLNGQVREEYKRWITGK SGHLSCQGLKASCE GTALANGTGELSEHQQ	adslevfnuheryyd Vrahrhrglrprroka Dkurlyieoktnlpalnrfc	AKERKPSTTSSGKYEDSDGC CYLGKTRPPRKLELRG SANAWRAYDTASAERR CPNPGPPGARGEVGEEE CEPILDDKGRKYDLHYRIAL QLVDHEVHESNEVWC
32 2 2 2 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3	2644 2646 2647 2648 2650 2651	2680 2681 1180 2675 2677 2679 1183	1185	820 821 822 823 453 502
AAB18200.1 AAB18200.1 AAB18200.1 CAA52376.1 CAA52376.1 CAA52376.1	NP_001775.1 NP_001775.1 NP_001775.1 NP_001775.1 NP_001775.1 NP_001775.1	NP_001775.1 NP_001775.1 S014246 S014246 S014246 S014246 CAA67133.1	CAA67133.1 CAA67133.1 CAA67133.1	P32238 P32238 P32238 P32238 Q13324
Cannabinoid Receptor 1 Cannabinoid Receptor 1 Cannabinoid Receptor 1 Cannabinoid Receptor 2	Leukocyte Antigen CD97	Leukocyte Antigen CDy/ Leukocyte Antigen CD97 Leukocyte Antigen CD97 EMR1 Hormone Receptor EMR1 Hormone Receptor EMR1 Hormone Receptor EMR1 Hormone Receptor G Protein-Coupled	G Protein-Coupled Receptor GPR30 G Protein-Coupled Receptor GPR30 G Protein-Coupled Receptor GPR30	Cholecystokinin A Receptor Cholecystokinin A Receptor Cholecystokinin A Receptor Cholecystokinin A Receptor Corticotropin releasing factor Receptor 2 Corticotropin releasing
832 832 833 833 833	22 22 22 22 23 23 23 23 23 23 23 23 23 2	922 922 921 941 941 965	965 965 965	978 978 978 978 1103
883 885 885 887 888 889	893 893 894 895 895 895	\$65 \$65 \$65 \$65 \$65 \$65 \$65 \$65 \$65 \$65	906 908 908	909 910 911 913 914

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Homo sapiens	Homo saplens		Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens		Homo sapiens	Homo sapiens		Homo saplens	Homo sapiens	Homo sapiens Homo sapiens																
DPEGPYSYCNTTLDQIGTCW	ALLEQYCHTIMTLTNLSG		SSHHEPRGSISKEC	KAKPTSPSDGNATSLAETID	CSQPESSFKMSFKRE	EDLKKEEAAGIARPLEK	PWEEDFWEPDVNAENC	CAPDISLRASIKKETK	PNAVTPGNREVDNDEE	<b>QTSPDGDPVAESVWELDC</b>	KRSSRAFRAHLRAPLKGNC	CTVIMKSNGSFPVNRRRV	KPEKNGHAKDHPKIAK	GKTRTSLKTMSRRKLSQQKE	KGRRRKRILTRONSQC	CNSVRPGFPQQTLSPDP	CQDTALGGPGFQERGGE	KREEKTRNSLSPTIAP	STSLKLGPLQPRGVPLRE	VAVAVPLRYNRQGGSR	EVARRAKLHGRAPRRP	PPSPTPPAPRLPQDPC .	PPQTPPQTRRRRAKITGRE	DAYPSAFPSAGANASGP		LVDIDRRDPLVVAALHLC	KRCFRQLCRKPCGRPD		SRPREATARERVTAC	TENSSQLDFEDVWNSS	NDSFPDGDYDANLEAAAPC CHASLGHRLGAGQVPG
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505	202	:	4	42	<del>5</del>	4	1407	1408	1409	1410	1403	1404	1405	1406	1398	1399	1400	1401	1402	1394	1395	1396	1397	222		224	225		226	וואו	1412 1413
Q13324	LR43		CAA41734.1	CAA41734.1	CAA41734.1	CAA41734.1	P21918	P21918	P21918	P21918	P14416	P14416	P14416	P14416	P35462	P35462	P35462	P35462	P35462	P21917	P21917	P21917	P21917	AAA18789.1		AAA18789.1	AAA18789.1		AAA18789.1	AAC50055.1	AAC50055.1 AAC50055.1
factor Receptor 2 Corticotropin releasing	racior receptor z Corticotropin releasing	factor Receptor 2	Dopamine Receptor D1	Dopamine Receptor D1	Dopamine Receptor D1	Dopamine Receptor D1	Dopamine Receptor D5	Dopamine Receptor D5	Dopamine Receptor D5	Dopamine Receptor D5	Dopamine Receptor D2	Dopamine Receptor D2	Dopamine Receptor D2	Dopamine Receptor D2	Dopamine Receptor D3	Dopamine Receptor D4	Dopamine Receptor D4	Dopamine Receptor D4	Dopamine Receptor D4	Opiold Receptor, delta 1	(OPRD1)	Opioid Receptor, delta 1	Opiola Receptor, delta 1	(OPRD1)	Oploid Receptor, delta 1 (OPRD1)	Duffy Antigen	Duffy Antigen Duffy Antigen				
1103	1103	;	1240	1240	1240	1240	1241	1241	1241	1241	1242	1242	1242	1242	1243	1243	1243	1243	1243	1244	1244	1244	1244	1267		1267	1267		1267	1424	1424
915	916	;	216	918	616	6 <u>2</u> 0	53	225	923	924	22	<b>5</b> 26	427	928	626	930	93)	932	933	934	935	936	937	938		939	940		94]	942	943 944

Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens		Homo sapiens	Homo sapiens		Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens		Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
FGAKGLKKALGMGPGP KOFAFRICMEYPNEFFI	KLFRTAKONPLTEKSOVNKK	KSAPEENSREMTETOM	CKGYKRKVMRMLKRQ	GEERGFPPDRATPLLQTAE	RSLAPAEVPKGDRTAGSP	PRIISPPPCQGPIEIKE	<b>EEKQSLEEKQSCLKFKAND</b>	RYSTNLSNHVDDFTTFRGTE	NRRNGSLRIALSEHLK	EYRGEQHKTCMLNATSK	KNHDQNNHNTDRSSHKD	RPGIEKFREEAEERDIC		CHLGEGAKGPLPVDTFLR	GHEESGDRFSNSSTAFRPLC		KGIIEGEPTCCFECVECPDG	CSTAAHAFKVAARATLRRSN	POKNAMAHRNSTHONSLE	RPEVEDPEELSPALVVSSSQ	ASWGGTPERLKVAITMLTA	SEDSAPTNDTAANSAS		SYESAGYTVLRILPLVVL	PVFLFLTTVTPNGD	EERLKVAITMLTARGIIRFV	ERALSEDSAPTNDTAANSAS
1415	46	47	48	23	33	38	22	49	S	5	83	1425	•	1426 :	1427	٠	1428	1429	1430	1431	1878	1879		1880	1881	2612	2613
AAC50055.1 AAA35024.1	AAA35924.1	AAA35924.1	AAA35924.1	BAA14398.1	BAA14398.1	BAA14398.1	BAA14398.1	AAB25530.1	AAB25530.1	AAB25530.1	AAB25530.1	P41180		P41180	P41180		P41180	P41180	P41180	P41180	NP_001453.1	NP_001453.1	ı	NP_001453.1	NP_001453.1	NP_001453.1	NP_001453.1
Duffy Antigen FRV-indired Gene 2	EBV-Induced Gene 2	EBV-Induced Gene 2	EBV-Induced Gene 2	Endothelin B Receptor	<b>Endothelin B Receptor</b>	Endothelin B Receptor	Endothelin B Receptor	Endothelin A Receptor	Endothelin A Receptor	Endothelin A Receptor	Endothelin A Receptor	Calcium-Sensing Receptor	(CASR)	Calclum-Sensing Receptor (CASR)	Calcium-Sensing Receptor	(CASR)	Calcium-Sensing Receptor (CASR)	Calcium-Sensing Receptor (CASR)	Calcium-Sensing Receptor (CASR)	Calcium-Sensing Receptor	Formyl Peptide Receptor-	uke keceptor Formyl Peptide Receptor-	Uke Receptor	Formyl Peptide Receptor-	Formyl Peptide Receptor-	Formyl Peptide Receptor-	uke keceptor Formyl Peptide Receptor-
1424	145	1451	1451	1486	1486	1486	1486	1488	1488	1488	1488	1598		1598	1598		1598	1598	1598	1598	1676	1676		1676	1676	1676	1676
945	947	948	949	8	951	952	953	<b>8</b>	955	956	627	958		959	096		196	395	963	8	986	996		. 296	896	696	970

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Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	. Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens Homo sapiens
Geskvteipsdlprnaielr	DVLEVIEADVFSNLPK	RNGHCSSAPRVTSGSTY	RGQRSSLAEDNESSYSRGFD	CHHRICHCSNRVFLCQE	LRVIQKGAFSGFGDLEK	LYVMSLLVLNVLAFVVIC	CNKSILRQEVDYMTQARGQR	SDNNNLEELPNDVFHGA	KLVALMEASLTYPSHC	SFESVILWLNKNGIQEIHNC	IHSLQKVLLDIQDNINIHT	KANNLYITPEAFQNLP	CYEMQAQIYRTETSSTVH	INTPSSRKKMVRRVVC	ARAISASSDGEKHSSRK	KYSAKTGLTKUDASRVSET	PDTYYLKTVTSASNNETYC	GNSLVITVLARSKPGKPR PRASNQTFCWEQWPDPRHKK
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83	26	8	61	2231	2232	2233	2234	2236	2238	2241	2248	2250	2251	1437	1439	1440	1893	192
				•														
AAA52477.1	AAA52477.1	AAA52477.1	AAA52477.1	NP_000136.1	NP_000136.1	NP_000136.1	NP_000136.1	NP_000136.1	NP_000136.1	NP_000136.1	NP_000136.1	NP_000136.1	NP_000136.1	AAA62370.1	AAA62370.1	AAA62370.1	AAA62370.1	AAA50767.1 AAA50767.1
ptor mulating Hormone	receptor Follicle Stimulating Hormone Recentor	mulating Hormone	mulating Hormone	mulating Hormone	mulating Hormone	mulating Hormone	mulating Hormone	mulating Hormone	mulating Hormone	mulating Hormone	mulating Hormone	Follicle Stimulating Hormone	mulating Hormone	-Coupled	peg	pelo	pelo	tor GalR1 tor GalR1
1681	1681	1681	1681	1891	1681	1681	1681	1681	1681	1681	1681	1681	1681	1726	1726	1726	1726	1762 1762
971	972	973	974	975	976	776	978	626	980	981	982	983	984	985	986	484	988	% % %

Homo saplens	Homo saplens	Homo sapiens	Homo saplens	•	Homo saplens		Homo saplens	•	Homo sapiens		Homo sapiens		Homo sapiens		Homo sapiens		Homo saplens		Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens		Homo sapiens		Homo sapiens		Homo saplens		Homo sapiens	Homo sapiens	Homo saplens
KKLKNIMSKKSEASKKKTAQ	GNSLVITVLARSKP	RKDSHLSDTKENKSRID	<b>QTAGELYQRWERYRREC</b>		CENPEKNEAFLDØRULER		CRLRRSLGEEQRQLPERAFR		PTSRGLSSGTLPGPGNEA		CNISSHSADLPVNDDWSHPG		SDLHPFHEESTNQTFISC		YNLPVEGNIHVKKØIES		CQPGUIRSHSTGRSTT		CEPPRIRGAGTRELELAIR	RVRNQGGLPGAVHQNGRC	LRFDGDSDSDSQSRVR	CRPETGAVGKDSDGCY	DGLLRTRYSQKIGDDL	CGPDGGWVRGPRGQPWRDAS	CQMDGEEIEVQKEVAKMYSS	TSNHRASSSPGHGPPSKE	KLQKWTQKKEKGKKLSRMK		DRSLAITRPLALKSNSKVGQ		RMIHLADSSGQTKVFSQC		<b>DPHELQLNQSKNNIPRARLK</b>		<b>QRLAGRHPQDSYEDSTQSS</b>	CKPFGNVRFDAKLAIVG	KTSCGPDVFSGSSYPGVQS
													. •			• ,				9.						-	<b></b> .	-									
194	195	196	1250		1251		1253		1276		829		830		831		832		1281	1282	1283	1284	837	838	839	840	206		207		208		209		1746	1747	1748
AAA50767.1	AAA50767.1	AAA50767.1	P48546		P48546		P48546		P48546		P30550		P30550		P30550		P30550		Q16144	Q16144	Q16144	Q16144	P47871	P47871	P47871	P47871	AAA35917.1		AAA35917.1		AAA35917.1		AAA35917.1		NP_000504.1	NP_000504.1	NP_000504.1
Galanin Receptor GalR1	Galanin Receptor GalR1	Galanin Receptor GaIR1	Gastric Inhibitory	Polypeptide Receptor	Gastric Inhibitory	Polypeptide Receptor	Gastric Inhibitory	Polypeptide Receptor	Gastric Inhibitory	Polypeptide Receptor	Gastrin-Releasing Peptide	Receptor	Cholecystokinin B Receptor	Cholecystokinin B Receptor	Cholecystokinin B Receptor	Cholecystokinin B Receptor	Glucagon Receptor	Glucagon Receptor	Glucagon Receptor	Glucagon Receptor	Gonadotropin-Releasing	Hormone Receptor	Gonadotropin-Releasing	Hormone Receptor	Gonadotropin-Releasing	Hormone Receptor	Gonadotropin-Releasing	Hormone Receptor	Opsin, green-sensitive	Opsin, green-sensitive							
1762	1762	762	808		808		1808		1808		1813		1813		1813		1813		1814	1814	1814	1814	1834	1834	1834	1834	925		1925		1925		1925		1945	1945	1945
			_												990		<u>.</u>		•	1003	•	1005	1006	ר 7001	1008	6001	1010		ווסו		1012		1013				1016 · 1
8	8	88	994		8		8		8		866		8		2		2		2	2	2	5	2	2	2	2	5		2		2		2		2	2	2

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Homo saplens Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens		Homo sapiens		Homo sapiens		Homo sapiens		STIPIODS OLLION	Homo sapiens		Homo saplens	-	Homo sapiens		Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	
CILQIFGKKVDDGSELSS STRGPFEGPNYHIAPR	TNGLVLAATMKFKKLR	ELSSASKTEVSSVSSVSP	ADLDWDASPGNDSLGD		GVEHENGIDPWDINEC		KLWRRRRGDAVVGASL		SQRKLSTLKDESSRAW		KEDESACLEAAREIVIRINILG	CPDFFSHFSSESGAVKRD		VRKLEPAGGSLHTQSQ		KIEISKKWHGHUPELL		GWINHING SVINKEDKC	CCHIRELINISCHSFSEIKLR	AGGGSVLKSPSQTPKE	KSPVVFSQEDDREVDKLYC	TAPGKGKLRSGSNTGLD	KRLRSHSRQYVSGLHMNRE	NSRNETSKGNHTTSKC	CITYYRIFKVARDQAKR	RDQAKRINHISSWKAA	<b>TAFVYRGLRGDDAINE</b> :	HKTSLRSNASQLSRTQSRE	DSNGSAGSEDAQLEPA	KVREDVDVIECSLQFPDDD	RNTVQDPAYLRDIDGMNK	CFPLKMRMERQSTSRVRN	
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1750	1768	1769	581		282		583		284	. 6	220	. 834		835	700	830	7771	/01	8	1169	0,11	ולוו	1172	1173	1174	1175	1176	1177	227	228	229	230	
NP_000504.1 NP_000504.1	NP_000504.1	NP_000504.1	Q92847		G92847	!	Q92847	!	Q92847	000443	CHOZO45	Q02643		G02643	27,000	<b>GU2043</b>	776360	P3330/	P3536/	P35367	P35367	P35367	P35367	P25021	P25021	P25021	P25021	P25021	AAA63906.1	AAA63906.1	AAA63906.1	AAA63906.1	
		Opsin, green-sensitive	Growth Hormone	Secretagogue Receptor	Hormone Receptor	Growth Hormone-Releasing	Hormone Receptor	Growth Hormone-Releasing	Hormone Receptor	Growin Hormone-Keledsing	Hormone Keceptor	Histornine HI Receptor	HISTAMING HI KECEPTOR	Histamine H1 Receptor	Histamine H1 Receptor	Histamine H1 Receptor	Histamine H1 Receptor	Histamine H2 Receptor	Histamine H2 Receptor	Histamine H2 Receptor	Histamine H2 Receptor	Histamine H2 Receptor	Opiold Receptor, kappa 1 (OPRK1)	Opiold Receptor, kappa 1	Opiold Receptor, kappa 1	Oploid Receptor, kappa 1							
1945 1945	1945	1945	1951		195		1951		1951	1054	<u> </u>	1954		1954	730	<u>7</u>	כיני	21.50	2120	2120	2120	2120	2120	1212	1212	1212	2121	1212	2783	2783	2783	2783	3
1017	9101	920	<u>5</u>	9	77		1023		1024	3001	252	1026		1027	900	970	000	200	_		1032			333					1040	<u>1</u> 01	1042	1043	

5 5 5 <u>5</u>	Q14751 CNTGIRKFPDVTKVFSSESN Homo saplens	1433 KMHNGAFRGATGPKTLD Homo sapiens	1434 CESTVRKVSNKTLYSS Homo sapiens	FAVRNPELMATNKDTK Homo saplens	1436 CKRRAELYRRKDFSAYTSN Homo saplens	210 ERHITVFRMQLHTRMSNRR Homo sapiens	1139.1 211 RGRTMRMSRHSSGPRRNRD Homo sapiens	1139.1 212 KHLATEWNTVSKLVM Homo saplens	1139,1 213 ENPTGPTESSDRSASSLN Homo saplens	255.1 184 ESQISLSCSLCLHSGDQEAQ Homo sapiens	255.1 GQGKATRVYAVVQISAPM Homo sapiens	255.1 DKPEVGRNKKAAGIDPME Homo sapiens	255.1 187 EQPHSTQHVENLLPREHRVD Homo saplens	3 451 : RLHVKRIAALPPADGVAPQ Homo saplens	3 DPUYAFRSLEURNIFRE Homo sapiens	S GAPFFSNQSSSAFCEQVFI Homo saplens	3 563 IVHSDYLTFEDQFIQHMDNI Homo saplens
5 5 5 <u>5</u>																	
	oin Recentor	Luteinizing  Q14751  Ammone JChorlogonadotro	Luteinizing  Q14751  Hormone/Choriogonadotro	oin keceptor Luteinizing Q14751 Hornone/Chorlogonadotro	on Receptor LuteInIzing Q14751 Hormone/Choriogonadotro	Jun receptor Sophosphafidic Acid AAC51139.1	Receptor Edg2 Lysophosphatidic Acid AAC51139.1 Paceptor Edg2	AAC51139.1	Lysophosphatidic Acid AAC51139.1 Peceptor Edo?	G Protein-Coupled AAB21255.1	Receptor Mixe  G Protein-Coupled AAB21255.1	Receptor Mike G Protein-Coupled AAB21255.1 Receptor MRG	G Protein-Coupled AAB21255.1	Melanocortin 3 Receptor P41968	Melancortin 3 Receptor 7 P41968	Melancortin 3 Receptor P41968	Melanocortin 3 Receptor P41968
		1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	0901

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Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homos capiens	Homo sopiens	Homo sapiens	Homo sapiens	Homo saplens
HSNASESLGKGYSDGGC	KRIAVLPGTGAIRQGA	NSTDTDAQSFTVNIDN	NSTHRGMHTSLHLWNRSSYR	<b>ATEGNLSGPNVKNKSSPC</b>	NKHLVIADAFVRHIDN	MNSSFHLHFLDLNLNAT	RYHHIMTARRSGAIIAG	<b>GESQRRLLGSLNSTPT</b>	EAGALVARAAVLQQLD	ALRYHSIVTLPRARQA	CQHAQGIARLHKRQRP	HSLKYDKLYSSKNSLC	CTARVFFVDSSNDVADR	QVRQRVKPDRKPKLKP	DSSNDVADRVKWKPSPLMTN	AVRPGWSGAGSARPSR	LVAIFYDGWALGEEHC	LVLQARRKAKPESRLC	CEMAPOIPED EVICY	I A A BUDA GONDONO I A E	ARARAHARDQAREQDRAHAC	DRASGHPKPHSRSSSAY	<b>HPKPAAADNPELSASHC</b>
** *							••						-·				•						
1032	1033	1035	1469	1022	1024	1025	1026	1036	1038	1039	1040	214	215	216	217	930	931	932 932	8 8	751	752	753	754
AAB33341.1	AAB33341.1	AAB33341.1	AAB33341.1	P33032	P33032	P33032	P33032	AAD41352.1	AAD41352.1	AAD41352.1	AAD41352.1		AAB17720.1					P49286					
(MC3R) Melanocortin 4 Receptor	Melanocortin 4 Receptor	Melanocortin 4 Receptor	Melanocortin 4 Receptor	Melanocortin 5 Receptor	Melanocortin 5 Receptor	Melanocortin 5 Receptor	Melanocortin 5 Receptor	Melanocortin 1 Receptor	Melanocortin 1 Receptor	Melanocortin 1 Receptor	Melanocortin 1 Receptor	Melatonin Receptor type 1a	Melatonin Receptor type 1b	Melatonin Receptor type 1b	Melatonin Receptor type 1b	Melatonia Receptor type 15	Melatonio-Related Recentor	Melatonin-Related Receptor	Melatonin-Related Receptor	Melatonin-Related Receptor			

 

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Homo sapiens Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens
DDSDLPESASSPAAGPT DDYKIQMINKSGVVRSVC	CRSNTFLNIFRRKKAG	DISTKTLYNVEEEEDA	ERFKLLQEYVYEHERE	DFVRASLSRGADGSRHIC	CVATSEKVGRAMSRAAFEG	CAAHSLRAVPFEQESK	CDAMRPVNGRRLYKDF	DAPFRPADTHNEVRFDR	GKETAPERREVVTLRC	GGLFPINEKGTGTEEC	EFVRASLTKVDEAEYMC	RSNIRKSYDSVIRELL	CDKHLAIDSSNYEQES	GTRRYTLAEKRETVILKC	PSSLGKPKGHPHMNSIRID	CGSGGPPIITKPERVVG	CKLSRHALKKGSHVKK	CPRMDPVDGTQLLKYI
755 879	880	88	882	891	892	893	894	895	896	268	868	8%	006	902	606	016	116	913
Q13585 Q13255	Q13255	Q13255	Q13255	Q14416	Q14416	Q14416	Q14416	Q14416	Q14416	CAA54796.1	CAA54796.1	CAA54796.1	CAA54796.1	CAA54796.1	Q14833	Q14833	Q14833	Q14833
Metabotropic Glutamate	Metabotropic Glutamate	Metabotropic Glutamate Recentor 1	Metabotropic Glutamate	Metabotropic Glutamate Recentor 2	Metabotropic Glutamate	Metabotropic Glutamate	Metabotropic Glutamate Receptor 2	Metabotropic Glutamate	Metabotropic Glutamate	Metabotropic Glutamate	Receptor 3 Metabotropic Glutamate	Receptor 3 Metabotropic Glutamate Receptor 3	Metabotropic Glutamate Receptor 3	Metabotropic Glutamate Receptor 3	Metabotropic Glutamate Receptor 4	Metabotropic Glutamate	Metabotropic Glutamate	Metabotropic Glutamate Receptor 4
3081 3093	3093	3093	3093	3094	3094	3094	3094	3094	3094	3095	3095	3095	3095	3095	30%	3096	30%	30%
1086 1087	1088	1089	1090	1001	1092	1093	1094	1095	1096	1097	1098	30%	8	1101	1102	1103	2	1105

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28	3096	Metabotropic Glutamate	Q14833	914	RIERMHWPGSGQQLPRSIC	Homo sapiens
107	3097	Metabotropic Glutamate	P41594	883	KDYFDYINVGSWDNGEL	Homo sapiens
90	3097	Metabotropic Glutamate	P41594	884	KMDDDEVWSKKSNIIRSVC	Homo sapiens
60	3097	Metabotropic Giutamate Receptor 5	P41594	885	<b>GETLRYKDRRLAQHKSEIEC</b>	Homo sapiens
011	3097	Metabotropic Glutamate	P41594	886	NPN@TAVIKPFPKSTE	Homo sapiens
11	3097	Metabotropic Glutamate	P41594	887	KALYDVAEAEEHFPAPA	Homo sapiens
112	3097	Metabotropic Glutamate	P41594	888	RSPSPISTLSHRAGSASRTD	Homo sapiens
113	3097	Metabotropic Glutamate Receptor 5	P41594	688	RESPAAGPEAAAAKPD	Homo sapiens
114	3098	Metabotropic Glutamate	015303		QAURGRGDGDEVGVRC	Homo sapiens
. 311	3008	Metabotropic Glutamate Recentor 6	015303	904	KLTSSGTQSDDSTRKC	Homo saplens
911	3098	Metabotropic Glutamate Receptor 6	015303	906	DVEALQWSGDPHEVPSSLC	Homo sapiens
117	3098	Metabotropic Glutamate Receptor 6	015303	906	RFQVDEFTCEACPGDM	Homo sapiens
118	3008	Metabotropic Glutamate Receptor 6	015303	206	GARPPHSVIDYEEQRT	Homo saplens
119	30%	Metabotropic Glutamate Receptor 7	Q14831	417	CIAQSVRIPQERKDRTIDFD	Homo sapiens
120	3066	Metabotropic Glutamate Receptor 7	Q14831	918	NDEDIKGILAAAKRAD	Homo saplens
121	3066	Metabotropic Glutamate Receptor 7	Q14831	721	NIEDMQWGKGVREIPASVC	Homo sapiens
122	3066	Metabotropic Glutamate Receptor 7	Q14831	2693	IKQLLDTPNSRAVVI	Homo sapiens
123	3066	Metabotropic Glutamate Receptor 7	Q14831	2694	DPPNIIDYDEHKTM	Homo sapiens
124	3100	Metabotropic Glutamate	000222	922	CANGDPPIFTKPDKIS	Homo sapiens
125	3100	Metabotropic Glutamate	000222	923	CPRMSTIDGKELLGYIRA	Homo saplens

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Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens		Homo sapiens	Homo sapiens		Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens		Homo sapiens		Homo sapiens	Homo sapiens		Homo sapiens
KVEDMQWAHREHTHPASVC	CESLETNISSTKTTYISYS	KFYWILTMMQRTHSQEYAHS	DGNLSDPCGPNRTNLGGRDS	DRINHQLENLEAETAPLP	IKALVTIPETTFQTVS	RIRGNTRDHPSTANTVDR	SERSQPGAEGSPETPPGRC	CRAPRILQAYSWKEEE	SSEGEEPGSEVVIKMP		KQPPRSSPNTVKRPTKKGRD	CRWDKRRWRKIPKRPGS		EHINKIGNGKANADPVIENC	DSTSVSAVASNMRDDE	ENTVSTSLGHSKDENSKQTC	DEKGNIVARKIVKMTK	RIKKDKKEPVANQDPVSPSL		SRSRVHKHRPEGPKEKKAKT		KKPKPGGKPGGUKNGKLEEA	<b>DKDTSNESSSGSATQNTKER</b>		RPAANVARKFASIARNQVRK
924	925	1894	231	232	233	234	1325	1326	1327	•	1328	1329	0000	OSS	1331	1332	1333	1831	٠	218		219	220		221
000222	O00222	000222	AAA20580.1	AAA20580.1	AAA20580.1	AAA20580.1	AAA35686.1	AAA35686.1	AAA35686.1		AAA35686.1	AAA35686.1	1 07313444	AAA313/U.1	AAA51570.1	AAA51570.1	AAA51570.1	AAA51570.1		AAA51571.1		AAASIS/I.I	AAA51571.1		AAA51571.1
Receptor 8 Metabotropic Glutamate Receptor 8	Metabotropic Glutamate Receptor 8	Metabotropic Glutamate Receptor 8	Opiold mu-type Receptor	Oploid mu-type Receptor	Opiold mu-type Receptor	Oploid mu-type Receptor	Muscarinic acetylcholine Receptor M1	Muscarinic acetylcholine Receptor M1	Muscarinic acetylcholine	Receptor M1	Muscarinic acetylcholine Receptor M1	Muscarinic acetylcholine	Receptor MI	Receptor M2	Muscarinic acetylcholine Receptor M2	Muscarinic acetylcholine Receptor M2	Muscarinic acetylcholine	Muscarinic acetylcholine	Receptor M2	Muscarinic acetylcholine	Receptor M4	Muscarinic acetylcholine Receptor M4	Muscarinic acetylcholine	Receptor M4	Muscarinic acetylcholine Receptor M4
3100	3100	3100	3212	3212	3212	3212	3223	3223	3223		3223	3223	2004	9226	3224	3224	3224	3224		3226	č	2220	3226		3226
1126	1127	1128	1129	33	1131	1132	1133	134	1135		1136	1137	1130	2	1139	1140	141	1142		1143	,,,,,	<u>=</u>	1145	:	1146

Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens		Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
Ното	Homo	Homo	Homo	Ното	Homo	Homo	Homo	Homo	Homo	Homo	Homo	Homo	Homo	Homo		Homo	Ното	Homo	Homo		Homo	Ното	Homo	Homo
KAEKRKPAHRALFRSC	CSSYPSSEDEDKPATD	KESPGEEFSAEETEETFV	KFRLVVKADGNQETNNGC	KEPSTKGLNPNPSHQM	PAAETWIDGGGGVGAD	PSQPWANLTNQFVQPSWR	SRKKRATPRDPSFNGC	<b>ADAVNLTASLAAGAA</b>	SPSALGLPVASPAPSQP	<b>ERDFLPASDGTTTELVIRC</b>	KTUKSAHNLPGEYNE	SEVARISSLDNSSFTAC	CGRKSYQERGTSYLLSSSA	RGELVPDPEPEUDST		CIVYHLESKISKRISF	REYSUEIIPDFEIVAC	NDHYHQRRQKTIKMLVC	CEQRLDAIHSEVSVTFKAKK	MGPIGAEADENQTVEEMKVE	SEVSVTFKAKKNLEVRKNSG	CVTVRQKEKANVTNLL	KNHSKALEFLADKVVC	CYARIYRRLQRQGRVFHKG
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1334	1335	1336	1337	1338	1757	1759	1760	2265	2290	824	825	826	828	1057		. 1058	1059	1000	1001	2297	2298	1068	1069	1070
P08912	P08912	P08912	P08912	P08912	NP_001050.1	NP_001050.1	NP_001050.1	NP_001050.1	NP_001050.1	P28336	P28336	P28336	P28336	P49146		P49146	P49146	P49146	P49146	P49146	P49146	P50391	P50391	P50391
Muscarinic Acetylcholine	Receptor Mo Muscarinic Acetylcholine Receptor M5	Muscarinic Acetylcholine Receptor M5	Muscarinic Acetylcholine Receptor M5	Muscarinic Acetylcholine Receptor M5	Tachykinin Receptor 3	Tachykinin Receptor 3	Tachykinin Receptor 3	Tachykinin Receptor 3	Tachykinin Receptor 3	Neuromedin B Receptor	Neuromedin B Receptor	Neuromedin B Receptor	Neuromedin B Receptor	Neuropeptide Y Receptor	Туре 2	Neuropeptide Y Receptor Type 2	Neuropeptide Y Receptor Type 2	Neuropeptide Y Receptor	Neuropeptide Y Receptor Type 2	Neuropeptide Y Receptor Type 2	Neuropeptide Y Receptor Type 2	Neuropeptide Y Receptor	Neuropeptide Y Receptor	Neuropeptide Y Receptor
3227	3227	3227	3227	3227	3378	3378	3378	3378	3378	3380	3380	3380	3380	3404		3404 404	3404	3404	3404	3404	3404	3405	3405	3405
1147	1148	1149	1150	1151	1152	1153	152	1155	156	1157	1158	1159	360	1161		1162	1163	28	1165	3	1167	1168	1169	1170

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	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
	CQQSAPLEESEHLPLST	SEHCQDSVDVMVFIVTS	MKKRNGKTTVNFLIGN	CGLSNKENRLEENEMI	NLTLHPSKKSGPQVKL	SFIKKHRRRYSKKTAC	PERPSQENHSRILPEN	CFEIKPEENSDVHELRV	RVLAAPSSELDVNTDIYS	CHPFKAKTLMSRSRTKK	GEQNRSADGQHAGGLVC	RQAAEQGQVCTVGGEHS	CPVWRRRRRRPAFSRKADS	CHPIRALDVRTSSKAQA	PVAIMGSAQVEDEEIEC	GVQPSSETAVAILRFC	CASALRRDVQVSDRVRSIAK	TPEPRPRTQPMASPRLGTFC	TAVASLLKGRQGIYTE
	1071	2275	1072	1073	. 1074	1075	1076	1077	. 935	936	937	938	939	940	941	942	943	2123	2124
	P50391	P50391	Q15761	Q15761	Q15761	Q15761	Q15761	Q15761	P30989	P30989	P30989	P30989	P30989	P41146	P41146	P41146	P41146	NP_000264.1	NP_000264.1
Туре 4	Neuropeptide Y Receptor Type 4	Neuropeptide Y Receptor Type 4	Neuropeptide Y Receptor Type 5	Neuropeptide Y Receptor	Neurotensin Receptor Type	Oplate Receptor-Like 1	Oplate Receptor-Like 1	Oplate Receptor-Like 1	Oplate Receptor-Like 1	Ocular Albinism 1	Ocular Albinism 1 (Nettleship-Falls) (OA1)								
	3405	3405	3406	3406	3406	3406	3406	3406	3408	3408	3408	3408	3408	3452	3452	3452	3452	3513	3513
	<u> </u>	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189

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Homo sapiens Homo sapiens Homo sapiens Homo sapiens	Homo sapiens	Homo sapiens
EMQTDINGGSLKPVRTAAK CSLGFQSPRKEIQWES SEGSDASTIEIHTASESC NPASGKVSQVGGQTSD CKKLHIPLKAQNDLDISRIK	KIVKPLWTSFIGSVSYSKLL  TAITKKIFKSHLKSSRNSTS  VKKKSSRNIFSIVFVFFVC  AEGNRTAGPPRRNEALARVE RLAVLATWLGCLVASAP PEGAAAGDGGRVALAR YLKGRRLGETSASKKSNSSS MQRIGDVLGSSEDFRR  ARGGRVTCHDTSAPEL	KPAYGTSGGLPRAKRK TGPSPATPARRRLGLRRSD RYSGVVYPLKSLGRLKKKN SGTGVRKNKTITCYD RALIYKDLDNSPLRRS DIFRRRLSRATRKASRRSE FVGSTHSGGNNASEAC MVLKTLTKPVTLSRSKI TIGNSIKMKNWSVRRSD SEVHGAENFIGHNLGTLK CTSRRALTRTAVYTLN AQERRGKAARMAVVV
2125 2126 2127 2128 1486	1500 1502 1503 245 245 246 247 854	856 857 386 387 388 389 850 851 853 853 874 875
NP_000264.1 NP_000264.1 NP_000264.1 NP_000264.1	NP_055694.1 NP_055694.1 NP_055694.1 CAA46097.1 CAA46097.1 CAA46097.1 AAC04923.1	AAC04923.1 AAC04923.1 CAA07339.1 CAA07339.1 CAA07339.1 CAA07339.1 P43657 P43657 P43657 Q15077
Ocular Albinism 1 (Nettleship-Falls) (OA1) UDP-glucose Receptor	UDP-glucose Receptor (KIAA0001) UDP-glucose Receptor (KIAA0001) UDP-glucose Receptor (KIAA0001) UDP-glucose Receptor (KIAA0001) Oxytocin Receptor P2Y, Gprotein coupled, 2 (P2RY2) Purinergic Receptor P2Y, Gprotein coupled, 2 (P2RY2)	4 - 4 -
3513 3513 3513 3513	3544 3544 3582 3582 3582 3582 3589 3589	3589 3589 3595 3595 3596 3596 3596 3596 3596 359
1190	1195 1198 1200 1203 1203	1204 1208 1209 1209 1210 1211 1213 1214

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Homo sapiens	Homo sapiens	Homo saplens	Homo saplens		Homo sapiens		<ul> <li>Homo sapiens</li> </ul>		Homo sapiens		Homo sapiens		Homo sapiens		Homo sapiens		Homo sapiens		Homo sapiens		Homo sapiens		Homo saplens		Homo sapiens		Homo sapiens	•	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
TKTAYLAVRSTPGVPC	KKFRRRPHELLØKLTAK	CHPLAPWHKRGGRRAAW	CFRMKMRSETAIFITN		RTLRKPATLSQIGTNKK		ESFOKSFYINAHIRMES		KTETPLTTKPSLPAIQEE		SSLRPRLGNATANNTCIVD		KAKVQCELNITAQLQEGE		<b>ESLIMGDDPQNSIEATSVDK</b>		NSEQDCLPHSFHEETKE		<b>EETKEDSGRQGDDILMEKPS</b>		CEKRLKEVLQRPASIMESDK		<b>ESEEDKEAPTGSRYRGRPC</b>		LYSGATLDEAERLTEEELR		KDDGFLNGSCSGLDEEASG		CLEKIGIRANELMGFNDSS	CPELFRIFNPDQVWETET	DSNSLDLSDMGVVSRNC	IKRKWRSWKVNRYFAVD	<b>ESDFGDSNSLDLSDMGVVSR</b>	RITGDLENTIKVQC	RSSREKRRSADIFIAS	<b>QTIAGHFRKERIEGLRKRRR</b>	<b>GPNMGKGGEQMHEKSIPYSQ</b>
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876	877	2726	870		871		872		873		1895		248		249		220		251		192		762		763	•	765		944	945	946	948	2292	62	প্ত	2	\$
Q15077	Q15077	Q15077	Q99677		G99677		Q99677		G99677		Q99677		AAC50157.1		AAC50157.1		AAC50157.1		AAC50157.1		G03431		Q03431		Q03431		Q03431		P41586	P41586	P41586	P41586	P41586	AAA18954.1	AAA18954.1	AAA18954.1	AAA18954.1
Purineralc Receptor P2Y6	Purinergic Receptor P2Y6	Purinergic Receptor P2Y6	G Protein-Coupled	Receptor 23 (GPR23)	G Protein-Coupled	Receptor 23 (GPR23)	G Protein-Coupled	Receptor 23 (GPR23)	G Protein-Coupled	Receptor 23 (GPR23)	G Protein-Coupled	Receptor 23 (GPR23)	. Parathyrold Hormone	Receptor 2 (PTHR2)	Parathyroid Hormone	Receptor 2 (PTHR2)	Parathyroid Hormone	Receptor 2 (PTHR2)	Parathyroid Hormone	Receptor 2 (PTHR2)	Parathyroid Hormone	Receptor 1 (PTHR1)	Parathyrold Hormone	Receptor 1 (PTHR1)	Parathyroid Hormone	Receptor I (PIHRI)	Parathyroid Hormone	Receptor (PIPICE)	PACAP Receptor Type 1	Apelin Receptor	Apelin Receptor	Apelin Receptor	Apelin Receptor				
3597	3597	3597	3599		3599		3599		3599		3599		3638		3638		3638		3638		3640		3640		3640		3640	0	3/32	3732	3732	3732	3732	3844	3844	3844	3844
1216			1219		1220		1221		1222		1223		1224		1225		1226		1227		1228		1229		1230		1231	000				1235	1236			1239	1240

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Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens		Homo sapiens		Homo saplens		Homo sapiens	Homo sapiens		Homo sapiens	Homo capiens		Homo sapiens	Homo sapiens
RMEDEDYNTSISYGDEYPD	DSIVVLEDLSPLEARVTR	LTIVCKLHRNRLAKTKKPFK	RSFTKMSSMNERTSMNERE	TRSRRLTFRKNISKASRSSE	CPSGDSAGKFKRPIIAG	CPSGDSAGKFKRPIIAGME	RSKSDNSSHPQKDEGD	ERHLTMIKMRPYDANK	LVKSSSRKVANHNNSE	SPKVKEDLPHTDPSSC	CLVRGRGARASPIQPALD	REHYQYVGKLAGRLKEASE	RAHTWREKRLLYSKMVC	KEESGIAICTMVYPSDEST	<b>QAKKSSKHKALKVTIT</b>	GERFRRDLVKTLKNLGC	ENYSYDLDYYSLESDLEEK		RDTVEFNNHTLCYNNFQKHD		SKKFQARFRSSVAEILK		GIVSEQLIRNSETKNLC	HPLRRISLRLSAYAV		CEEFWGSQERQRQLYA	JEG/VIGNO INVISVOVAS		CVTGSQADWDRARRRR	DSFREELRKLLVAWPRKIA
					•									,			-	-					•							
447	448	449	450	1010	101	1012	1013	1028	1029	1030	1031	1752	928	° 959	096	ا%	74		75		76		11	1087		1088	1080	3	1090	1601
LR39	Q99788	Q99788	Q99788	AAA52336.1	AAA52336.1	AAA52336.1	AAA52336.1	Q99500	Q99500	Q99500	Q99500	Q99500	P51686	P51686	P51686	P51686	AAA64592.1		AAA64592.1		AAA64592.1		AAA64592.1	075194		075194	075104		075194	075194
Chemokine-Like Receptor 1 (CMKLR1)	Sphingolipid Receptor Edg1	Sphingolipid Receptor Edg1	Sphingolipid Receptor Edg1	Sphingolipid Receptor Edg1	Sphingolipid Receptor Edg3	C-C Chemokine Receptor 9	G Protein-Coupled	Receptor GPR1	G Protein-Coupled	Receptor GPR1	G Protein-Coupled	Receptor GPR1	G Protein-Coupled Receptor GPR1	G Protein-Coupled	Receptor 10 (GPR10)	G Protein-Coupled	Receptor 10 (GPR 10)	Receptor 10 (GPR10)	G Protein-Coupled	receptor IU (GPRIU) G Protein-Coupled										

 

Receptor GPR12 G Protein-Coupled Receptor GPR12 G Protein-Coupled Receptor GPR12 G Protein-Coupled Receptor GPR12 CX3C Chemokine Fractalkine Receptor 1 G Protein-Coupled Receptor GPR15 G Protein-Coupled Receptor GPR15 G Protein-Coupled Receptor GPR18
12
Receptor GPRI Fractalkine Rec CX3C Chemok Fractalkine Rec GPRI Receptor GPRI
3852 3852 3852 3853 3853 3854 3854 3854 3855 3855

Receptor 10 (GPR10)

V	<b>VO</b> 02	2/061(	)87					;	393/44	<b>18</b> .			PCT/US01/50107						
Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens
RRGMKETFCMSSMKC	KTITKDSIYDSFDREAKEKK	ALLFSQDGQREGQRRC	SGDEEDAYSAEPLPELC	ALLIDTADILAARERSC	RRLLRGGSSPSGPQPRRGC	KGSGRHHILSAGPHALTQ	RTNASGLEVPLFHLFARLDE	SRPGLLHQGRQRRVRAMQ	GQHGEREPSSGDVVSMHRSS	SERQARFSSQSGETGEVQAC	DPYTVRSKGPLNGC	NSTLDGNQSSHPFCLL	CASQITANDPYTVRSK	EINMGSESNITVRDDIDD	RRAVKRHRERRERGKRVFRM	TROKFOKVLKSKMKKR	<b>DPKRNKKITEDSEIREKR</b>	CAPGGGGRRWRLPQPAWVEG	EASLLPTGPNASNTSDGPDN
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8	901	1152	1153	1154	1155	lot	102	103	104	105	106	107	108	109	==	112	113	1532	1533
AAB00316.1	AAB00316.1	P46092	P46092	P46092	P46092	AAC51302.1	AAC51302.1	AAC51302.1	AAC51302.1	AAC51303.1	AAC51303.1	AAC51303.1	AAC51303.1	AAC51304.1	AAC51304.1	AAC51304.1	AAC51304.1	AAH01736.1	AAH01736.1
G Protein-Coupled	G Protein-Coupled	G Protein-Coupled	G Protein-Coupled	G Protein-Coupled  Becaptor GBP2/CCR10	G Protein-Coupled	Receptor GPR2/CCR10  G Protein-Coupled  Docoptor CR20	G Protein-Coupled	G Protein-Coupled	receptor GPR20 G Protein-Coupled	G Protein-Coupled	Receptor GPK21  G Protein-Coupled	Receptor GPIK21 G Protein-Coupled	Receptor GPK21  G Protein-Coupled	Receptor GPK21 G Protein-Coupled	G Protein-Coupled	Receptor GPR22 G Protein-Coupled	Receptor GPK22 G Protein-Coupled	Receptor GPR22  G Protein-Coupled	G Protein-Coupled

	wo	02/00	1007						394	1/448							050	1,501		
	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	
•	KGVGRAVGLGGGSGCQATE	RMTSSVAPASQRSIRLRTKR	RAVSNAQTADEERTESKG	RGLQPLPGGQDSQCGEEP	CRISRRLRRPHVGRARRNS	RTGRLARRISSASSLSRDD	DYSGLDGLEELELCPAGD	TVYCLLGDAHSPPLYT	<b>EGPTGPAAPLPSPKAWD</b>	HFAAVFCIGSAEMSL	GLTCGVVYPLSKNH	REPEKQPKLQRAQALVTLV	CHSFYSRADGSFSIIWQEA	QNLGSCRALCAVAHTSDVTG	SPTFRSSYRRVFHTLRGKGQ	DELFRDRYNHTFCFEKFPME	<b>L</b> RAVRGSVSTERQEKAKIKR	RSDVAKALHNLLRFLASDK	NASLTLETPLTSKRNSTAK	
	1539	1565	1567	376	377	378	483	118	. 611	120	121	1157	1158	1169	1160	143	144	145		
	AAH01736.1	AAH01736.1	AAH01736.1	000155	000155	000155	000155	AAB60402.1	AAB60402.1	AAB60402.1	AAB60402.1	000270	000270	000270	000270	AAA98457.1	AAA98457.1	AAA98457.1	AAA98457.1	
	Receptor SLC/MCH1 G Protein-Coupled	G Protein-Coupled Geneptor SI C MCH1	G Protein-Coupled Receptor SI C/MCH1	G Protein-Coupled	G Protein-Coupled	Receptor GPI225 G Protein-Coupled	G Protein-Coupled	Receptor GPR25 G Protein-Coupled	G Protein-Coupled	G Protein-Coupled	Receptor GPRs G Protein-Coupled	Receptor GPRS  G Protein-Coupled  Decotor CPP3	G Protein-Coupled	G Protein-Coupled	G Protein-Coupled	Keceptor GPK3   G Protein-Coupled	G Protein-Coupled	G Protein-Coupled	Receptor GPR4 G Protein-Coupled Receptor GPR4	
	3860	3860	3860	3861	3861	3861	3861	3862	3862	3862	3862	3863	3863	3863	3863	3864	3864	3864	3864	
	306	1307	308	309	310	1311	312	313	314	315	316	317	318	319	320	1321	1322	1323	324	

HS:		HLYVRICQVVWRHAH Homo sapiens		EIGRALWLLCGCFQSK Homo sapiens	ATAESRRVAGRTYSAAR Homo sapiens		KLDEGGRAGCYLYFPGPE Homo sapiens	RLHAMRLDSHAKALERAKKR Homo saplens	DASFRRNLRQUTC Homo saplens	NVSQDNGTGHNATESEP Homo sapiens		RSRHMPWRTYRGAKVAS Homo sapiens	VRI RSGAKAI GKARRK Homo sopjens		LDDNFRKNFRSILRC Homo sapiens		AUHFLEIDKNCCVFKDD Homo sapiens	ARIIWSLRGRGMDRHAKIKR Homo sapiens	CLQRKMTGEPDNNRSTSVE Homo saplens		DPNKTRGAPEALMANSGE Homo sapiens			RQRQMDRHAKIKRAITFIMV Homo sapiens			AVRRSHGTQKSRKDQI Homo saplens
167 CU		168 HLY		169 .	171 ATA		TN	173 ELH	174 DA	175 NV	·	176 ; RSR	177 . VRI	**-	JOI . 821	÷ •		180 ARI	181 CL6		182 DPI	183 CNIN		1453 RQI	303		1192 AVI
AAA91631.1		AAA91631.1		AAA91631.1	AAC50197.1		AAC30197.1	AAC50197.1	AAC50197.1	AAC50198.1		AAC50198.1	AAC50198.1		AAC50198.1	1 1021000	6AAU1/21.1	BAA01721.1	BAA01721.1		BAA01721.1	RA401701 1		BAA01721.1	1 102104 4	1.1271000	Q15743
G Protein-Coupled	December CDDA	G Protein-Coupled	Receptor GPR6	G Protein-Coupled Receptor GPR6	G Protein-Coupled	Receptor GPR7	G Profein-Coupled Receptor GPR7	G Protein-Coupled Receptor GPR7	G Protein-Coupled	Receptor GPIX/ G Protein-Coupled	Receptor GPR8	G Protein-Coupled	Receptor Griss  G Protein-Coupled	Receptor GPR8	G Protein-Coupled	Receptor GPRS	e Froiein-Coupled Receptor HM74	G Protein-Coupled	G Protein-Coupled	Receptor HM74	G Protein-Coupled	Keceptor HM/4 G Protein-Counted	Receptor HM74	G Protein-Coupled	Receptor HM74	Receptor HM74	G Protein-Coupled
3866	3	3866		3866	3867	2706	7000	3867	3867	3868		3868	3868		3868	3860	3009	3869	3869		3869	3840	}	3869	3840	600	3870
	1326	1327		1328	1329	000	25	1331	1332	1333		1334	1335		1336	1337	2	1338	1339		2 <u>8</u>	1341		1342	1343	2	1344

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	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens
	LMHEEVIEDENQHRVC	CFVSETTHRDLARLRG	CSRTGRAREAYPLGAPEASG	CRMYRQQKRHQGSLGPRPRT	CFTQAVAPDSSSEMGD	ASGRRDPRAPSAPVGKEGSC	SAWGEGQVEPLPPTQQ	KSPFYRCQNTTSVEKGNSAV	RNLYAMHRRLQRHPRSC	CAEPRADGREASPQPLEEL	KDVKEKNRTSEEAEDLRALR	AQAAGRLRRRRSATTF	CVGVTRPLLHAARVSVARAR	CNTLSGLALHRARWRR	ASGPDSRRRWGAHGPR	SGSARRARAHDVEMVGQ	IALALLARRWRGDVGC	CETROWLPPGESPAISSV	GPSLGSGRGGPGARRRGE	<b>NETSSRKEKWDL@ALR</b>	ERSAEARGNLTRPPGSGEDC	SRSYRRESKRKKSFLLC	CRAKATASQSSAQWGR
•	1193	1194	1195	1188	1189	1190	1911	458	. 459	503	504	962	696	7964	. 696	996	296	896	696	126	972	676	974
	Q15743	Q15743	Q15743	P43119	P43119	P43119	P43119	Q13258	Q13258	Q13258	Q13258	P34995	P34995	P34995	P34995	P34995	AAD44177.1	AAD44177.1	AAD44177.1	AAD44177.1	CAB52459.1	CAB52459.1	CAB52459.1
	Receptor OGR1 G Protein-Coupled	Receptor OGR1 G Protein-Coupled	Receptor OGIN  G Protein-Coupled Deceptor OCD	Prostacyclin Receptor	Prostacyclin Receptor	Prostacyclin Receptor	Prostacyclin Receptor	Prostaglandin D2 Receptor	Prostaglandin D2 Receptor	Prostaglandin D2 Receptor	Prostaglandin D2 Receptor	Prostaglandin E Receptor EP 1	Prostaglandin E Receptor EP 1	Prostaglandin E Receptor EP 1	Prostaglandin E Receptor EP1	Prostaglandin E Receptor TEP1	Prostaglandin E Receptor EP2	Prostaglandin E Receptor EP2	Prostaglandin E Receptor EP2	Prostaglandin E Receptor EP2	Prostaglandin E2 Receptor EP3	Prostaglandin E2 Receptor EP3	Prostaglandin E2 Receptor
	3870	3870	3870	3921	3921	3921	3921	3923	3923	3923	3923	3924	3924	3924	3924	3924	3925	3925	3925	3925	3926	3926	3926
	1345	1346	1347	1348	1349	1350	1351	1352	1353	354	1355	356	1357	358	359	360	361	362	1363	1364	1365	300	1367

								397	/448									
Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens
KFCQVANAVSSCSNDGQ	RLSDFRRRRSFRRIAGAE	EREVSKNPDLQAIRIAS	DSQRTSSAMSGHSRSFISRE	RTLRISETSDSSGGGDSE	ILMKAYQRFRQKSKAS	ASDKEWIRFDQSNVLC	TKPIFHSTKITSKHVK	CFYNTEDIKDWEDRFY	RVKFKSQQHRQGRSHHLE	<b>QGTNRSSKGRSUGKVDGTS</b>	GRYWVIVNPMGHSRKKAN	SHDFRDHAKNALLCRSVR	VSLTSKKHSRKSSSVS	ENDTNNLAKPTLPIKTFR	<b>CPEESASHLHVKNATMG</b>	QPDITICHDVHNTCESSSP	MSKTRNHSTAYLTK	RDHKSGTPANVFLMH
975	382	383	384	385	1046	1047	1048	1049	1050	252	253	255	256	257	258	260	261	88
CAB52459.1	P35408	P35408	P35408	P35408	P43088	P43088	P43088	P43088	P43088	AAB47871.1	AAB47871.1	AAB47871.1	AAB47871.1	AAC51218.1	AAC51218.1	AAC51218.1	AAC51218.1	CAB08108.1
EP3 Prostaglandin E2 Receptor	FP3 Prostaglandin E Receptor FP4	Prostaglandin E Receptor EP4	Prostaglandin E Receptor EP4	Prostaglandin E Receptor EP4	Prostaglandin F2-alpha Receptor	Prostaglandin F2-alpha Receptor	Prostaglandin F2-alpha	Prostaglandin F2-alpha	Prostaglandin F2-alpha Recentor	Proteinase-Activated	receptor 2 Proteinase-Activated	receptor 2 Proteinase-Activated	Receptor 2 Receptor 2	Proteinase-Activated Receptor 3	Proteinase-Activated	Proteinase-Activated Receptor 3	Proteinase-Activated	G Protein-Coupled Receptor GPR17
3926	3927	3927	3927	3927	3928	3928	3928	3928	3928	4051	4051	4051	4051	4052	4052	4052	4052	4090
1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	1379	1380	1381	1382	1383	1384	1385	1386

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4090	G Protein-Coupled Recentor GPR17	CAB08108.1		RSLRGGLRVEKRLKTKAVR	Homo sapiens
	G Protein-Coupled Possetor CRP17	CAB08108.1		RSHGASCATQRILALANR	Homo sapiens
	G Protein-Coupled	CAB08108.1	8	FEGKTNESSL\$AKSE	Homo sapiens
4254	Rhodopsin	P08100	1051	RNCMLTICCGKNPLGD	Homo sapiens
4254	Rhodopsin	P08100	1052	CGIDYYTLKPEVNNESFVI	Homo sapiens
4254	Rhodopsin	P08100	1053	<b>CWVPYASVAFYIFTHQGSN</b>	Homo sapiens
4254	Rhodopsin	P08100	1055	VLGGFTSTLYTSLHGY	Homo sapiens
4284	Retinal G Protein-Coupled	P47804	1042	ATSSLLRRWPYGSDGC	Homo sapiens
4284	receptor RPE Retinal G Protein-Coupled	P47804	1043	CTLDYSKGDRNFTSFL	Homo saplens
, 4284	Receptor RPE	D47804		MEDICIONOLITICAL	Toricos Caron
,	Receptor RPE				
4284	Retinal G Protein-Coupled	P47804	1045	MVCRGIWQCLSPQKRE	Homo sapiens
	Receptor RPE				
4321	Secretin Receptor	P47872	. 026	CLQELSREQTGDLGTEQ	Homo sapiens
_	Secretin Receptor	P47872	951	CPRFLRMLTSRNGSLFRN	Homo sapiens
_	Secretin Receptor	P47872	952	CGVNVNDSSNEKRHSY	Homo sapiens
_	Secretin Receptor	P47872	954	KDAVLFSSDDVTYCDAH	Homo sapiens
_	Secretin Receptor	P47872	. 926	MRKLRTGETRGNEVSH	Homo sapiens
4480	Somatostatin Receptor Type	P30872	766	EEPGRNASQNGTLSEG	Homo sapiens
4480	Somatostatin Receptor Type	P30872	966	CLSWIMDNAAEEPVDY	Homo saplens
4480	Somatostatin Receptor Type	P30872		<b>EDFQPENLESGGVFRNGTC</b>	Homo saplens
4480	Somatostatin Receptor Type	P30872	2616	LSVDAVNMFTSIYC	Homo sapiens
4480	Somatostatin Receptor Type	P30872	2618	RAYSVEDFQPENLES	Homo sapiens
4481	Somatostatin Receptor Type	P30874	866	RSNQWGRSSCTINWPGE	Homo saplens
4481	Somatostatin Receptor Type	P30874	666	KVKSSGIRVGSSKRKKSE	Homo sapiens
4481	Somatostatin Receptor Type	P30874	1000	CLVKVSGTDDGERSDS	Homo sapiens

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Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens				
KODKSRLNETTETORI	DMADEPLNGSHTWLSIP	KVRSAGRRVWAPSCQR	REGGKGKEMNGRVSQI	TISEPENASSAWPPD	<b>QPGTSGQERPPSRVA</b>	- IFADTRPARGGQAVAC	CLLEGAGGAEEEPLDY	KMRAVALRAGWQQRR	CRAVLSVDGLNMFTSV	CLVGLVGNALVIFVIL	SIPILVFADVQEGGTC	CLRKGSGAKDADATEP	RIRQQEATPPAHRAAA	RVAKLASAAAWVLSLC	CMIEWPEHPNKIYEKV	CPFISAGDYEGLEMKSTRYL	KVSRLETTISTVVGAHEE	<b>EPEDGPKATPSSLDLTSNC</b>	EDEEKNESGLTEYRLV	AVANRSKKSRALFLSAAVFC	SINKSSPLOKOLPAFISE
1001	2276	1002	2622	2624	2626	1007	1008	2627	2631	2633	2637	2638	2639	2643	1339	1340	1341	1342	1202	2582	2583
rpe P30874	pe P30874	рө Р32745	rpe P32745	rpe P32745	rpe P32745	pe P31391	rpe P31391	ре Р31391	ре Р31391	rpe P31391	rpe NP_001044.1	rpe NP_001044.1	rpe NP_001044.1	rpe NP_001044.1	AAA36641.1	AAA36641.1	AAA36641.1	AAA36641.1	P25116	P25116	P25116
Somatostatin Receptor Type	Tachykinin Receptor 1	Tachykinin Receptor 1	Tachykinin Receptor 1	Tachykinin Receptor 1	Thrombin Receptor	Thrombin Receptor	Thrombin Receptor														
4481	4481	4482	4482	4482	4482	4483	4483	4483	4483	4483	4484	4484	4484	4484	4552	4552	4552	4552	4687	4687	4687
1411	1412	1413	1414	1415	1416	1417	1418	1419	1420	1421	1422	1423	1424	1425	1426	1427	1428	1429	1430	1431	1432

4.33         4.887         Thrombin Receptor         P25116         2.21         DPRSFLIRNPNDKYEPWE         Homo sopiens           4.34         4734         Hyvoritopin Receptor         P3481         1196         PSDPRENSKWMKNDST         Homo sopiens           4.34         Hyvoritopin Receptor         P3481         1197         CRNSTXSSRKGVTKMLA         Homo sopiens           4.34         Hommone Receptor         P3481         1197         CRNSTXSSRKGVTKMLA         Homo sopiens           4.34         Hommone Receptor         P3481         1197         CRNSTXSSRKGVTKMLA         Homo sopiens           4.34         Hommone Receptor         P3481         1198         RAAMRYSALLNSVIKE         Homo sopiens           4.34         Hyvortopin Receptor         P4481         1200         KESDHFSTELDDITVID         Homo sopiens           4.34         Andjotenshi II Type 1         NP_000676.1         1771         RASHFSTELDDITVID         Homo sopiens           4.34         Andjotenshi II Type 1         NP_000676.1         1773         SYRPSDHYRERGED         Homo sopiens           4.34         Andjotenshi II Type 2         P50062         1321         CSGMPSSTKMPAPC         Homo sopiens           4.34         Andjotenshi II Type 2         P50062         1322
4687         Thrombin Receptor         P25116         2621           4734         Ihyrotropin Releasing         P34981         1196           4734         Ihyrotropin Releasing         P34981         1197           4734         Ihyrotropin Releasing         P34981         1197           4734         Ihyrotropin Releasing         P34981         1199           4734         Ihyrotropin Releasing         P34981         1199           4734         Ihyrotropin Releasing         P34981         1200           4744         Angiotensin II Type 1         NP_000676.1         1771           Receptor         NP_000676.1         1772           4944         Angiotensin II Type 1         NP_000676.1         1773           Acceptor         Angiotensin II Type 2         P50052         1321           Ava Angiotensin II Type 2         P50052         1323         1445           Angiotensin II Type 2 </th
434 Thrombin Receptor P25116 4734 Inyrotropin Releasing P34981 Hormone Receptor P500056.1 Receptor Receptor P500052 Receptor Angiotensin II Type 1 P500052 Receptor Angiotensin II Type 2 P500052 Receptor Angiotensin II Type 2 P500052 Receptor Angiotensin II Type 2 P500052 Receptor Pyrimidinergic Receptor P51582 F274 S072 Pyrimidinergic Receptor AAA62271.1 S117 Vasopressin V1A Receptor AAA62271.1 S118 Vasopressin V1B Receptor AAA65887.1 S118 Vasopressin V1B Receptor AAA65887.1
434 Thrombin Receptor P25116 4734 Inyrotropin Releasing P34981 Hormone Receptor P500056.1 Receptor Receptor P500052 Receptor Angiotensin II Type 1 P500052 Receptor Angiotensin II Type 2 P500052 Receptor Angiotensin II Type 2 P500052 Receptor Angiotensin II Type 2 P500052 Receptor Pyrimidinergic Receptor P51582 F274 S072 Pyrimidinergic Receptor AAA62271.1 S117 Vasopressin V1A Receptor AAA62271.1 S118 Vasopressin V1B Receptor AAA65887.1 S118 Vasopressin V1B Receptor AAA65887.1
1734 Thrombin Receptor 1734 Thyrotropin Releasing Hormone Receptor 1734 Angiotensin II Type 1 Receptor 1744 Angiotensin II Type 1 Receptor 1756 Angiotensin II Type 2 Receptor 1766 Angiotensin II Type 2 Receptor 1767 Angiotensin II Type 2 Receptor 1768 Angiotensin II Type 2 Rece
4687 4734 4734 4734 4734 4944 4944 4946 4946 4946 5072 5072 5072 5072 5117 5117 5117 5118

SO.	SC	SU	SU	SU	SU	SUS	SU	SU	SUS	SU	SUS	SUE		101/44 SUE		sus	sus	SUE	SUS	SU <sub>S</sub>	SUE	SUE	SUS	SUC
Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo saplens	Homo saplens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo saplens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens
<b>GPRMRRRLSDGSLSSRH</b>	ESPRDLELADGEGTAET	SNSSGERPLDTRDPLLARAE	RHGSGAHWNRPVLVAWAFS	CQVLIFREIHASLVPGPSER	RGRTPPSLGPQDESC	KNEDGSVFSQTEHNIV	IKYKELRTPTNAIIIN	RKNDRSFVSYTMTVIA	CTESLNRDWSDQIDVTK	VANKKFRRAMLAMFKC	CGPAGRISSRSQSLRSTDAR	EENRDKWEEAQLAGPN	CRVVDRQEEGNGDSGG	KRDKAPKSSFVGDGDI	RKLQHAAEKDKEVLGP	CLRPSPEEAVAQAESEVGR	GSSNDLFTTEMRYGEE	MARDGISDKSKKQRAGSERC	EDAPRARPEGTPRRAAK	RSRTMPRTVPGSTMKMGSLE	KREKRWSVSSGGAAERSVC	RRVFPTNFPGLQKKGE	CNLTREAKRPPKEEFG	KLKHRAGQMSEPHSGLTLKC
			•		•	٠	•-		-	•		·• .		•		•							•	
268	269	270	271	272	273	1147	1148	1149	1150	1151	486	886	686	066	166	186	982	683	984	985	986	976	776	826
AAA65687.1	AAA65687.1	CAA77746.1	CAA77746.1	CAA77746.1	CAA77746.1	014718	014718	014718	014718	014718	014514	014514	014514	014514	014514	060241	060241	060241	O60241 ·	060241	060241	060242	O60242	060242
Vasopressin V1B Receptor	Vasopressin V1B Receptor	Vasopressin V2 Receptor	Vasopressin V2 Receptor	Vasopressin V2 Receptor	Vasopressin V2 Receptor	Peropsin	Peropsin	Peropsin	Peropsin	Peropsin	Brain-Specific Angiogenesis Inhibitor 1	Brain-Specific Anglogenesis Inhibitor 1	Brain-Specific Anglogenesis Inhibitor 1	Brain-Specific Angiogenesis Inhibitor 1	Brain-Specific Anglogenesis Inhibitor 1	Brain-Specific Angiogenesis Inhibitor 2	Brain-Specific Anglogenesis Inhibitor 2	Brain-Specific Angiogenesis Inhibitor 2	Brain-Specific Anglogenesis Inhibitor 2	Brain-Specific Anglogenesis Inhibitor 2	Brain-Specific Angiogenesis Inhibitor 2	Brain-Specific Anglogenesis Inhibitor 3	Brain-Specific Anglogenesis Inhibitor 3	Brain-Specific Angiogenesis
5118	5118	5119	5119	5119	5119	5133	5133	5133	5133	5133	5519	5519	5519	5519	5519	5520	5520	5520	5520	5520	5520	5521	5521	5521
1456	1457	1458	1459	1460	1461	1462	1463	1464 24	1465	1466	1467	1468	1469	1470	1471	1472	1473	1474	1475	1476	1477	1478	1479	1480

HPGER HPGER WG WG K K SC	Homo saplens Homo saplens
ADIMDIVHPGER  MSSLERR  ADFLGFSK GAKRMTWG FGKHRSLK KLVKDIGC FSASHNV VGLHSRLPRGR  AEHVSCHPRYRE RDAEMIRRTFRR  IYTSSAGGGAST  KNFQTLK KSSVYTRSTGEQE YTCSSHFPYSQ IYDINYYTSEPC GELESDEAEQC GRYSLFKLVFA RGGSAGGTSRE  OVLRARAPREEQG SNSTNRRYREGGG GFSGRAPAERC RSGEGSVKTVPG SSODNDNEYTTE SSODNDNEYTTE	n
SRSETGSTISMSSLERR NDSSGEEHGDFLGFSK KATKAYNGGAKHRSUK SLEATLHAGGFGKHRSUK SLEFRKNFWKLVKDIGG KSSEDNSKTFSASHNV ERHRSVMAVGLHSRLP RRRYGRMAEHVSCHP RAAVYSCRDAEMRRTI RASTRESVHYTSSAGG YSGYGFWKNFGTLK GGEAPERASSVYTRST RSGKEGLHYTCSSHFPY MDYGVSSPIYDINYYTSI EDEYDVLIEGELESDEAF KGNFFSARRRVPCGIITT MRKTLRFREGRYSLFKLV RSNTPLQPRGGSAGG GPGNSARRVPCGIITT MRKTLRFREGRYSLFKLV RSNTPLQPRGGSAGG GPGNSARRVPCGIITT MRKTLRFREGRYSLFKLV RSNTPLQPRGGSAGG GPGNSARRVFRAP DPGGPRRGNSTNRRV CIGHKSSTVTSDDNDNEY CIGHKSSTVTSDDNDNEY CIGHKSSTVTSDDNDNEY	CIGKS) VISUDINDIVEY I E TDVVETRLSQWLEEMPC
979 980 1102 1103 98 6 98 6 99 88 6 109 109 109 129 130 130 130 130 130 130 130 130 130 130	316
O60242 O60242 O60242 O60574 O60574 O60574 O60574 O60574 AAC27728.1 AAC50598.1 AAC50598.1 AAC50598.1 AAC51281.1	NP_002593.1 O14804
Inhibitor 3  Brain-Specific Angiogenesis inhibitor 3  Brain-Specific Angiogenesis inhibitor 3  Brain-Specific Angiogenesis inhibitor 3  SIV/HIV Receptor BONZO Lysophosphatidic Acid Receptor Edg4 Lysophosphatidic Acid Receptor Edg4 Lysophosphatidic Acid Receptor Edg4 Lysophosphatidic Acid Receptor Edg4 C-C Chemokine Receptor 5 C-C Chemokine (C-C motif) Receptor-like 2 (CCRL2) Chemokine (C-C motif)	Pael Receptor (SPR37) Putative Neurotransmitter Receptor (PNR)
\$521 \$521 \$521 \$521 \$521 \$521 \$521 \$521	6536
1483 1484 1485 1486 1487 1489 1490 1490 1490 1490 1490 1490 1490 149	

									40	3/4	48														
Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens		supidos OLIOU	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens
KSLAGAAKHERKAAKT	RKALKLTLSQKVFSPQTR	HPAAFCYQVNGSCPR	KAKSKYSPELLKYRLP	KTGNWERKVIVSVRVA	KSVHSFDYDWYNVSDQAD	RVRNPTKDLTNPGMVP	RYDSDDDLAWNIAPGGLQ	PTLSFSHLKRPQQGAGNC	<b>GALGRAVLRSPGMTVAE</b>	MRVLNVDARRRWSTRC	<b>CPGYRDSWNPEDAKSTGQA</b>	<b>CPANFLAAADDKLSGFQGD</b>	ASNGLALYRFSIRKQR	CNRSSTRHHEQPETSN	PNQIRRIMAAAKPKHD			VQRPLLFASRRQSSARRTEK	<b>GSEAEPGSKSGSLSLESLEP</b>	NLTVCHPAWSAPRRRAMD	RAVDPVAAGSGARRAKRK	GRAPGRASGRVCAAARG	ERESSDLLHMSEAAGALRPC	DQLGDLEQGLSGEPQP	<b>EPSATPGAQMGVPPGSR</b>
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320	321	485	788	790	791	792	793	865	866	867	898	2299	2300	137	139	9	₹	141	142	197	198	661	200	235	236
014804	014804	014804	060478	060478	060478	060478	060478	043190	043190	043190	043190	043190	043190	AAC26082.1	AAC26082.1	. 000,000	WYCZ0002.1	AAC26082.1	AAC26082.1	AAC39634.1	AAC39634.1	AAC39634.1	AAC39634.1	AAC39601.1	AAC39601.1
Putative Neurotransmitter	Putative Neurotransmitter Receptor (PNR)	Putative Neurotransmitter Receptor (PNR)	G Protein-Coupled Receptor TM7SF1	G Protein-Coupled Receptor TM7SF1	G Protein-Coupled Receptor TM7SF1	G Protein-Coupled Receptor TM7SF1	G Protein-Coupled Receptor TM7SF1	Purinergic Receptor P2Y11	Purinergic Receptor P2Y11	Purinergic Receptor P2Y11	Purinergic Receptor P2Y11	Purinergic Receptor P2Y11	Purinergic Receptor P2Y11	G Protein-Coupled	Receptor GPR39 G Protein-Coupled	Receptor GPR39	G rioleiii-Codhed Receptor GPR39	G Protein-Coupled Receptor GPR39	G Protein-Coupled Receptor GPR39	Galanin Receptor Gali?2	Galanin Receptor GalR2	Galanin Receptor GalR2	Galanin Receptor GalR2	Orexin Receptor 1	Orexin Receptor 1
6536	6536	6536	7779	7779	7779	7779	7779	6853	6853	6853	6853	6853	6853	6921	1269	[8]	1740	6921	1269	1227	7221	7221	7221	7246	7246
1507	1508	1509	1510	เรเ	1512	1513	1514	1515	1516	1517	1518	1519	1520	1521	1522	603	252	1524	1525	1526	1527	1528	1529	1530	1531

											404/44	8													
Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens				
KRPSDQLGDLEQGLSGEPQ	KAPSPISSASHKSLSLØSIRC SEI NETØEDEI NDTDVDDEE	KWKPLQPVSQPRGPGQ	TKSRMSAVAAEIKGIRA	RQEDRLTRGRTSTESRKS	AVTRPIKTAQANTRKR	DSTNIVPDSAGSGNVTRC	GGRNAEVKRRALWMVC	KKFRKHLTEKFYSMRSSRKC	DRYYSVLYPLERKISDAKSR	DEEESEAKYIGSADFQAKE	ETRNSKKRLLPPLGNTPEE	ELIQTKVPKVGRVERKMSR	KKQRKAQNFISILIAN	FRNLSLPTDLYTHQVAC	CVENWPSKKDRLLFTT	CLRRRNAKVDKKKENEGR	DEPFQNVTLDAYKDKYVC	CYFKIYIRLKRRNNMMDK	CDFRSRDDDYĖTIAMS	ENDDCHLPLAMIFTLALA	SNFSEKNAQLLAFENDDC				
 237	239	241	242	243	1097	1098	4601		398	400	401	402	1078	1079	1080	1081	1064	1065	. 9901	1498	2291	-	ja .		
AAC39601.1	AAC39601.1 AAC39602.1	AAC39602.1	AAC39602.1	AAC39602.1	P25105	P25105	P25105	P25105	Q14439	Q14439	Q14439	Q14439	Q99463	Q99463	Q99463	G99463	P25929	P25929	P25929	P25929	P25929				
Orexin Receptor 1	Orexin Receptor 1 Orexin Receptor 2	Orexin Receptor 2	Orexin Receptor 2	Orexin Receptor 2	Platelet-Activating Factor	Platelet-Activating Factor	Receptor Platelet-Activating Factor Receptor	Platelet-Activating Factor	G Protein-Coupled	Receptor Ls8509 G Protein-Coupled	Receptor Ls8509 G Protein-Coupled	Receptor L88509 G Protein-Coupled	Neuropeptide Y Receptor	Neuropeptide Y Receptor	Type o Pseudogene Neuropeptide Y Receptor Type 6 Pseudogene	Neuropeptide Y Receptor Type 6 Presidosene	Neuropeptide Y Receptor	Neuropeptide Y Receptor Type 1	Neuropeptide Y Receptor	Neuropeptide Y Receptor	iype I Neuropeptide Y Receptor				
7246	7240	7247	7247	7247	8436	8436	8436	8436	8509	8509	8509	8509	988	988	8896	9688	. 9421	9421	9421	9421	9421	÷a			
1532	534	1535	1536	1537	1538	1539	1540	154	1542	1543	1544	1545	1546	1547	1548	1549	1550	1551	1552	1553	1554				

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Homo saplens		sueidos outou	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens		Homo sapiens		Homo saplens	Homo sapiens	-	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens
CESLSLASNISDNGYRE		Celeineerkokvhynva	NHSEDGAPALLTTAPP	GGAPPRYATLEHPFHC	CEPARPDGSMFFSQEE	AAREAGAAVRRPLGPE		LRYRRPPREKIGRRRA		PRELAAGGSFHGCLYR	CKTVRLSDVRVRPVNTYAR		EDFWKGEDLSNYSYSS	PPFLLDAAPCEPESLE	RRTVYSSNVSPACYE	SKDSLPKDSRPSFVGS	<b>PKPFLYVVGRKKMMDAQYKC</b>	VEVVPNGELVRRDPVSC	KIQWNQRWGRRPSNRS	CHQEPRNEPANNQGEESAE	TKSFRLRSRTLPRSKIIC	STFVFNQKYNTQGSDVCE	TAANLGKMNRSCQSE	RYSENISRQTSETADNDNAS	CPLAPPELHPPAPAP	CAIVERERGWPDFLR	CTNEVQNIKFNSSGQ	CEVPLVRTDNPKSWYE	CRADGTMRLGEPTSNE
•	-							• 8		. ((					-														
• 1778	CF	<b>X</b> //-	1774	1775	1776	1082		. 1083		1085	1086		802	803	804	805	992	492	177	277	355	356	357	358	2595	2000	2667	2008	500
NP_004373.1	. 000000	NP_004575.1	NP_001457.1	NP_001457.1	NP_001457.1	AAB97766.1		AAB97766.1		AAB97766.1	AAB97766.1		P25025	P25025	P25025	P25025	P30988	P30988	P30988	P30988	P51684	P51684	P51684	P51684	NP_005622.1	NP_005622.1	NP_005622.1	NP_005622.1	NP_005622.1
 Iype I Corticotropin releasing	factor Receptor 1	Conicolropin releasing factor Receptor 1	Frizzled-2	Frizzled-2	Frizzled-2	Putative Leukocyte Platelet-	Activating Factor Receptor	Putative Leukocyte Piatelet-	Activating Factor Receptor (HUMNPIIY20)	Putative Leukocyte Platelet- Activating Factor Receptor (HI IMNPIY20)	Putative Leukocyte Platelet-	Activating Factor Receptor (HUMNPII/20)	Interleukin-8 Receptor B	Interleukin-8 Receptor B	Interleukin-8 Receptor B	Interleukin-8 Receptor B	Calcitonin Receptor	Calcitonin Receptor	Calcitonin Receptor	Calcitonin Receptor	C-C Chemokine Receptor 6	Smoothened	Smoothened	Smoothened	Smoothened	Smoothened			
9834	4	700	10457	10457	10457	1968		11968		11968	11968		14198	4198	4198	4198	4641	<u>4</u> 64	464	4641	64	6041	<u>6</u>	8	6266	6266	6599	659	16599
1555 9		96	1557		•	1560		1561		1562	1563		1564	1565	1566	1567		_	_	_	_	_		_	_		_	_	1580

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Homo sapiens Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens		suaidos oution	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens
EAEISPELGKRIGRKK ANVTIGIPTKQPIPDC	SNASDSGSTQLPAPLR	CVLGYTELPADRAWW	LNTVRKNAVRVHNQSD	KVPERIRRRIQPSTVYC	DSLDLRQLTRAGLRRL	EDADAENSSFYYYDYLDE	DKYLEIVHAQPYHRLRTR	CVLVRLRPAGGGRALK	DLGERQSENYPNKEDVGNK	EKLTKRLKRHPEETGGFQEA	KKEEKKEWRKTLEPWK	DPLHRTIETFAKEEPKEDID	YEIEYVCRGEREVVGPKVRK	SLWETVQKWREYRRQC	LOKDNSSLPWRDLSEC	CIVVSKLKANLMCKTD		KWKLETICHISKOSSWINTCKO	CQVDETEEPDVHLPQP	REGLEAAGAAGASAASYSS	KLPSARAKIRITSSPI	ESKSSIKRVLAITTVLS
• • •	•						•		·· ·					•	••							
. 2670 2671	1227	1228	1249	1272	1273	363	364	365	366	.188	189	9	161	1205	1206	1208	נייי	502	1520	1521	1522	1523
NP_005622.1 NP_005622.1	043898	043898	043898	043898	043898	LR13	LR13	เกาง	เคา3	095375	095375	095375	095375	AAA17021.1	AAA17021.1	AAA17021.1	1 1002144	1.120/155	NP_057456.1	NP_057456.1	NP_057456.1	NP_057456.1
Smoothened Smoothened	G Protein-Coupled Receptor GPR45	G Protein-Coupled Receptor GPR45	G Protein-Coupled	G Protein-Coupled	Receptor GPR45  G Protein-Coupled	Receptor Gridge G Protein-Coupled Receptor DA	G Protein-Coupled	G Protein-Coupled	Receptor Do G Protein-Coupled	Receptor Do Gaba(b) Receptor 1	Gaba(b) Receptor 1	Gaba(b) Receptor 1	Gaba(b) Receptor 1	Glucagon-Like Peptide 1 Receptor	Glucagon-Like Peptide 1	Glucagon-Like Peptide 1	Receptor Changes His Bondae 1	Receptor	G Protein-Coupled	G Protein-Coupled	Receptor LOCS1210  G Protein-Coupled	Receptor LOC51210 G Protein-Coupled
16599	17250	17250	17250	17250	17250	17345	17345	17345	17345	17535	17535	17535	17535	7666	17666	17666	7777	3	18471	18471	18471	18471
1581 1 1582 1	1583	1584	1585	1586	1587	1588	1589	1590	1591	1592				1596 1	1597	1598	0031		1600	1601	1602	1603

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Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens
QGTLEILYPDAHLSAED	PKTPLKERISLPSRRS	SVVQLRRQRPDFEWNEGLC	PAVGWHDTSERFYTHGC	AVQVGRQADRRAFTVPT	EHEPAGEEALROKRAVATK	ALRQKRAVATKSPTAE	CEKEVLSSNVSWRYEEQQLE	RLANNTGGWDSSGCYVEEGD	CKQEKSSIFQISKSIG	CTAFQRREGGVPGTRPGSPG	APGTRASRRCDRAGRWE	CPAERVANNRGDFRWPR	<b>GNPPPEPEPPADQQLRFRC</b>	VPLGGGAPGTRASRRC	PAARVHRPSRCRYRD	TLARPDATGSGRRRKTVRL	RSKLVAASVPARDRVRG	AGSERSAVTIDATRPD
1524	1525	2030	2032	2047	1513	1514	1515	1518	, 6191	2164	2166	2167	1712	2175	425	426	427	428
NP_057456.1	NP_057456.1	ENSP00000164265	ENSP00000164265	ENSP00000164265	S9UiZ3	Q9UIZ3	Syuiz3	ezingo	Q9UIZ3	BAA96055.1	BAA96055.1	BAA96055.1	BAA96055.1	BAA96055.1	6Z2J	1K29	U229	1829
Receptor LOC51210 G Protein-Coupled	G Protein-Coupled Receptor I OC51210	G Protein-Coupled Receptor I s 19072	G Protein-Coupled	G Protein-Coupled	Receptor Ls 19072 G Protein-Coupled	Receptor KIAAU738  G Protein-Coupled	Receptor KIAA0758 G Protein-Coupled	G Protein-Coupled	Receptor KIAAU/38 G Protein-Coupled	Receptor KIAA0758 G Protein-Coupled	Receptor Ls21632 G Protein-Coupled	Receptor Ls21632 G Protein-Coupled	Receptor LS21032 G Protein-Coupled	G Protein-Coupled	Receptor LS2 1032  G Protein-Coupled	G Protein-Coupled	G Protein-Coupled	receptor GPIXYZ/GPIXX3 G Protein-Coupled Receptor GPRY2/GPRY3
18471	18471	19072	19072	19072	19501	19501	19501	19501	10961	21632	21632	21632	21632	21632	22315	22315	22315	22315
1604	1605	9091	1607	1608	9091	1610	1611	1612	1613	1614	1615	9191	1617	1618	6191	1620	1621	1622

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Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens		STEEDS OF TOP	Homo saplens		Homo sapiens		Homo sapiens		sueidos outon		SUBICIOS OLLION		Homo sapiens		Homo saplens		Homo sapiens		Homo sapiens		Homo sapiens		Homo saplens		Homo sapiens		Homo saplens		Homo sapiens		Homo sapiens	:	Homo saplens
CSGKSTESSIGSGKTSGSR	ENHOPHHYTRRIPOD	ESVITSTQTEPPAKC	SSASLNREGLLNNARD	DRYIKINRSIQQRKAIT			RISKRRSKFPNSGKYA		COLLFRRFQGEPSRSESTSE	:	RLGEIILTFEKINKTR		NG POLANCIA PILA		אמאטאואהטואוו פיזי		RPSIGSSKSQDVVIIMRI		KLPNNELHGGESHNSGN	•	SGNRSDGPGKNITLHNEFD		RQFISQSSRKRKHNQSIR		SHIDRIDESAGKILYYC		CRSFSRRLFKKSNIRTRSE		ESIRSLOSVRRSEVRIYYD		CRKELSNLTEEEGGEGGV		EEDAGRIGRKNSSTSTSSS		CFGDRYYREPFVQRQRISR		HSSSTGDTGFSCSQDSGNL
1138	1140	1141	1497	1255	1257	/67	1258		1259		2721	0000	77/7	2703	67/7	, de	2724		1579		1580		1581		1582		1584		1585		331		332		333		334
094867	094867	094867	094867	095853	005053	2000	Q95853		095853		CAC27252.1	. 030500	CAC2/202.1	CACCO 1	CAC2/232.1	. 010000	CAC27252.1		NP_076404.1		NP_076404.1		NP_076404.1		NP_076404.1		NP_076404.1		NP_076404.1		075963		075963		075963		075963
Latrophilin-3	Latrophilin-3	Latrophilin-3	Latrophilin-3	G Protein-Coupled		Receptor GPR34	G Protein-Coupled	Receptor GPR34	G Protein-Coupled	Receptor GPR34	G Protein-Coupled	Receptor Court				Receptor Ls30698	G Protein-Coupled	Receptor Ls30698	G Protein-Coupled	Receptor GPR87/GPR95	G Protein-Coupled	Receptor GPR87/GPR95	G Protein-Coupled	Receptor GPR87/GPR95	G Protein-Coupled	Receptor GPR87/GPR95	G Protein-Coupled	Receptor GPR87/GPR95	G Protein-Coupled	Receptor GPR87/GPR95	G Protein-Coupled	Receptor RE2	G Protein-Coupled	Receptor RE2	G Protein-Coupled	Receptor RE2	G Protein-Coupled
22925	22925	22925	22925	25359	25350	40004	25359		25359		30698	00700	30000	30400	30000	00,00	3000		30875		30875		30875		30875		30875		30875		31568		31568		31568		31568
1623	1624	1625	1626	1627	1430	0701	1629		1630		છુ	0071	220	1433	3	7 6 7 1	<u>8</u>		1635		1636		1637		1638		1639		<b>§</b>		<u>8</u>		1642		<u>5</u>		<u>8</u>

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	Homo sapiens	Homo sapiens	-	Homo sapiens	;	Homo saplens		Homo sapiens	Homo sapiens	•	Homo saplens		Homo saplens		Homo sapiens	موراطيء مسحل	suaidos outon	Homo soniens		Homo sapiens		Homo sapiens	•	Homo sapiens	Homo saplens	•	Homo sapiens		Homo sapiens		Homo sapiens	Homo sapiens	
	COKLOKIDLRHNEIYEIKVD	NKGDNSSMDDLHKKDA		<b>QDERDLEDFLLDFEED</b>		· ERGFSVKYSAKFETKA		RSKHPSLMSINSDDVEKGSC	DAGKESTGVTTLRGRR		CKKINQUSETEAVVIN		<b>ADDQTLLEQMMDQDDG</b>		KYNGSISUARPIALASO	CECENTER	NATANEENTALIO	DGDROKAMKRIRVPPI		RVRSGRVRSYSTRDFQDC		CNNSVPGKEHPFDITVMIRE		APSKPGLPKPQATVPRKVD	AASKPKSTPAVIQGPSGKD		KRSELNKTLQTLSETYFIMC		GNASTERNGVSFSVQNGDVC		CRIKKKGLGAGIKKISIGD	DFTGKQHMFNEKEDSC	
 	1232	1233		1234	1 (	1235		1230	2597		2600		2610	(i	7,07	24.73	20/07	2674		2103		2105		2106	2135		1261		1262	8,01	1203	1264	-
	075473	075473		075473		075473		0/54/3	NP_004727.1		NP_004727.1		NP_004727.1		NP_004/2/.1	1 707700 GIA	1.12/400_TM	NP 004727.1		CAC28410.1		CAC28410.1		CAC28410.1	CAC28410.1		000406		000406	707000	CUUAUo	000406	
Receptor RE2	G Protein-Coupled	Receptor GP1449  G Protein-Coupled	Receptor GPR49	G Protein-Coupled	Receptor GPR49	G Protein-Coupled	Kecepior GPR49	G Protein-Coupled Receptor GPR49	Xenotropic and Polytropic	Retrovirus Receptor (XPR1)	Xenotropic and Polytropic	Retrovirus Receptor (XPR1)	Xenotropic and Polytropic	Retrovirus Receptor (XPR1)	Xenotropic and Polytropic	Kellovijus Receptor (APRT)	Petrovirus Beceptor (XPD1)	Xenotropic and Polytropic	Retrovirus Receptor (XPR1)	Lung Seven Transmembrane	Receptor 2 (LUSTR2)	Lung Seven Transmembrane	Receptor 2 (LUSTR2)	Lung Seven Transmembrane Receptor 2 (LUSTR2)	Lung Seven Transmembrane	Receptor 2 (LUSTR2)	G Protein-Coupled	Receptor GPR64	G Protein-Coupled	Receptor Gried	G Protein-Coupled Receptor GPR64	G Protein-Coupled	Receptor GPR64
	36534	36534		36534		36534	,	30534	37498		37498	,	37498	0	3/498	37400	3/440	37408		40881		40881	1	40881	40881		42697		42697	10707	4204/	42697	
	1645	<u>8</u>		1647	•	1648		<u>8</u>	2 9 9 9		1651	,	1652		3	1454	3	1655		1656		1657		1658	1659		999		<u></u>	1440	200	1663	

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Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens
PNVNPASAGNOTOKTOD	RVKSPPEAGTQLPKIIFS	KDGYMVVNVSSLSLNEPED	RSTVDSKAMGEKSFSVHNNG	CQPLRARSLLTPRRTR	GQKHELETADGEPEPASRVC	KKTFIQGGQVSLVRHKD	CGEHHPMKRLPPKPQSP	STSTPGSSTPSRLELLSEE	METSSPRPPRPSSNPG	CSQVPSTSTPGSSTPSR :	DPNGNESSATYFILIG	RHATVLTLPRVTKIGV	ILKTVLGLTREAQAKA	HRFSKRRDSPLPVILAN	KEIRGRILRLFHVATHASE	GEDIEISDTESFSNDPC	SSKQIKTISGKTPQQYE	<b>AATQNRRFQFTQNQKKE</b>	CKDPIEDINSPEHIQRR	CVLSRKIQEEYYRLFKNVP	CIAANINKTLTKIRSIKEP	KLSVNHRRTHLTKLMHTVE	<b>EKITFILSHRKVTDRYRSLC</b>	SSSLLGYKNNTISAKD	CSSYELGGGSMKRSNRRK
			_			-				<u>.</u>	• • •														
2072	2073	2074	2076	1265	1266	1267	1269	2294	2301	2302	1850	1851	1852	1853	1854	1416	1417	1419	1420	2113	2114	2115	2116	2117	1421
AAK57695	AAK57695	AAK57695	AAK57695	095665	095665	095665	095665	095665	095665	095665	LR76	LR76	LR76	LR76	LR76	075899	075899	075899	075899	NP_071442:1	NP_071442.1	NP_071442.1	NP_071442.1	NP_071442.1	P20309
KIAA1624 Protein	KIAA1624 Protein	KIAA1624 Protein	KIAA 1624 Protein	Neurotensin Receptor type 2	Neurotensin Receptor type	G Protein-Coupled Receptor LS53440	G Protein-Coupled Receptor LS53440	G Protein-Coupled Receptor LS53440	G Protein-Coupled Receptor 1.553440	G Protein-Coupled Receptor LS53440	Gaba(b) Receptor 2	Gaba(b) Receptor 2	Gaba(b) Receptor 2	Gaba(b) Receptor 2	ETL protein	ETL protein	ETL protein	ETL protein	ETL protein	Muscarinic acetylcholine					
45937	45937	45937	45937	50847	50847	50847	50847	50847	50847	50847	53440	53440	53440	53440	53440	54053	5,4053	54053	54053	55728	55728	55728	55728	55728	56923
1664	1665	999	1667	1668	1669	1670	1671	1672	1673	1674	1675	1676	1677	1678	1679	1680	1681	1682	1683	1684	1685	1686	1687	1688	1689

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	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens Homo sapiens
	KPSSEQMDQDHSSSDSWNNN	DLERKADKLGAGKSVD	Keatlakrfalktrsq	PPTCRPRRMSVCYRPPGNE	CLAVTRPFLAPRLRSPALAR	RGARWGSGRHGARVGR	TAGDLLPRAGPRFLTR	EGSGEARGGGRSREGTME	RTTPQLKVVGQGRGNGD	RSAPTALSRRLRARTHLPGC	VRGSHGEPDASLMPRSC	RKEDSVLMEATSGGPTSFR	DQNKADIGGMLPGLTVRSV	PAGWPDQSLAESDSEDPSG	ETNHSLGKDDLRPSSP	SLVHELSGRRWQLGRRLC	LLFGWGETYSEGSEEC	FRVGSRKTNSVSPISE RHATVTFQPEGDTWREQK
				-		•	:		-	• • •			rest to					· .
	1422	1423	1424	2097	2098	2099	2100	2101	2012	1909	0161	1161	1912	1913	2118	2119	2120	2121 2122
	P20309	P20309	P20309	NP_062813.1	NP_062813.1	NP_062813.1	NP_062813.1	NP_062813.1	NP_062813.1	NP_055061.1	NP_055061.1	NP_055061.1	NP_055061.1	NP_055061.1	NP_076917.1	NP_076917.1	NP_076917.1	NP_076917.1 NP_076917.1
December M3	Muscarinic acetylcholine Receptor M3	Muscarinic acetylcholine Receptor M3	Muscarinic acetylcholine Receptor M3	Leukotriene B4 Receptor BLTR2	Leukotriene 84 Receptor BLTR2	Cadherin EGF LAG Seven- Pass G-Type Receptor 1 (CELSR)/Flaminao)	Cadherin EGF LAG Seven- Pass G-Type Receptor 1 (CELSR) /Flamingo)	Cadherin EGF LAG Seven- Pass G-Type Receptor 1	(CELSK / Mamingo) Cadherin EGF LAG Seven- Pass G-Type Receptor 1 (CELSR ) / Flamingo)	Cadherin EGF LAG Seven- Pass G-Type Receptor 1 (CELSR)/Flaminao)	5-HT5A Receptor	5-HT5A Receptor	5-HT5A Receptor	S-HISA Receptor 5-HISA Receptor				
	56923	56923	56923	57180	57180	57180	57180	57180	57180	73584	73584	73584	73584	73584	74514	74514	74514	74514 74514
	1690	1691	1692	1693	1694	1695	9691	1691	8691	6691	200	, 1071	702	703				1708

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Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens Homo sapiens	Homo saplens
GITRPFSRPAVASQRR	CHVYHGQEAAQQRPRDSEVE	RNPPAMSPAGQLSRTTE	RRLQPRLSTRPRRVSLC	RYLSVVSPLSTLRVPTLRC	SSILDTIFHKVLSSGCDYSE	VEILRILFRSRSKRRPHRTVK	QTLFRTQIIRSCEAKQQLE	RLGAPSPASIPHSPGAFAYE	RIEPYYSIYNSSPSQEE	IMIAGTLRKNAGVRKC	RNGNYNKLQHVQTRGYTKS	SRLQLVSAINLSTAKD	CKGKTRLRAMGKGNLEVNR	<b>NSAYMLSPKPQKKFVDQAC</b>	CKVQDSNRRKMLPTQF	HAVSLTKLVRGRKPLS	NVNVFSELSAPRRNED	TKGRNPMDYPVEDAFC	CKPQLVKKSYGVENRA	RRAVPGHQAHGANLRH KEDKLELTPTTSLSTRVNRC	KETLFMAGDTAPSEATSGEA
1277	1278	1279	1280	155	351	157	158	159	1589	1,590	1691	1592	1593	1594	1218	1219	1220	1221	1222	1286 1287	1288
P21731	P21731	P21731	P21731	AAA62837.1	AAA62837.1	AAA62837.1	AAA62837.1	AAA62837.1	NP_006785.1	NP_006785.1	NP_006785.1	NP_006785.1	NP_006785.1	NP_006785.1	AAC98506.1	AAC98506.1	AAC98506.1	AAC98506.1	AAC98506.1	AAB05897.1 AAB05897.1	AAB05897.1
Thromboxane A2 Receptor	Thromboxane A2 Receptor	Thromboxane A2 Receptor	Thromboxane A2 Receptor	Chemokine (C motif) XC Receptor 1 (CCXCR1)	Chemokine (C motif) XC	Chemokine (C motif) XC	Chemokine (C motif) XC	Receptor 1 (CCXCR1) Chemokine (C motif) XC	G Protein-Coupled Receptor GPR75	G Protein-Coupled	G Protein-Coupled	Receptor GPIK/3 G Protein-Coupled	receptor GPrk/3 G Protein-Coupled Receptor GPD75	G Protein-Coupled Receptor GPR75	G Protein-Coupled Receptor RAIG1	G Protein-Coupled Recentor RAIG1	G Protein-Coupled Recentor PAIG 1	G Protein-Coupled Receptor RAIG1	G Protein-Coupled Receptor RAIG1	Tachykinin Receptor 2 Tachykinin Receptor 2	TachykinIn Receptor 2
81765	81765	81765	81765	98519	98519	61586	98519	98519	130108	130108	130108	130108	130108	130108	133117	133117	133117	133117	133117	152198 152198	152198
200	1710	171	1712	1713	1714	1715	1716	7171	1718	9171	1720	1721	1722	1723	1724	1725	1726	727	1728	1729	1731

1732	152198	Tachykinin Receptor 2  Tayrotropia Beceptor	AAB05897.1	1290	CVVAWPEDSGGKTLLL . DODKSVNAINSPIHOF	Homo sapiens
1734	152201	Thyrotropin Receptor	P16473	1446	KFØDTHNNAHYYVFFEEØED	Homo saplens
1735	152201	Thyrotropin Receptor	P16473	1449	CHVKIYITVRNPQYNPGDK	Homo sapiens
1736	152201	Thyrotropin Receptor	P16473	1450	CKRQAQAYRGQRVPPKNSTD	Homo saplens
1737	152245	C-C Chemokine Receptor 2	NP_000639.1	1896	SRSRFIRNTNESGEEVTT	Homo sapiens
1738	152245	C-C Chemokine Receptor 2	NP_000639.1	1898	COKEDSVYVCGPYFPRGWNN	Homo saplens
1739	152245		NP_000639.1	1899	SGEEVITFEDYDYGAPCHKF	Homo sapiens
1740	152299	Interleukin-8 Receptor A	P25024	908	<b>DFDDLNFTGMPPADEDYSPC</b>	Homo sapiens
1741	152299	Interleukin-8 Receptor A	P25024	807	CWGLSMNLSLPFFLFRQAYH	Homo saplens
1742	152299	Interleukin-8 Receptor A	P25024	808	RHRVTSYTSSSVNVSSN	Homo sapiens
1743	152299	Interleukin-8 Receptor A	P25024	1490	<b>CMLETETLNKYVVIIAYALV</b>	Homo sapiens
1744	158822	Mas Proto-Oncogene	NP_002368.1	1527	<b>EEPTNISTGRNASVGNAHRQ</b>	Homo sapiens
1745	158822	Mas Proto-Oncogene	NP_002368.1	1528	RRNPFTVYITHLSIAD	Homo sapiens
1746	158822	Mas Proto-Oncogene	NP_002368.1	1529	<b>YVMCIDREESHSRNDCRAV</b>	Homo sapiens
1747	158822	Mas Proto-Oncogene	NP_002368.1	1530	SSTILVVKIRKNTWASHSSK	Homo saplens
1748	158822	Mas Proto-Oncogene	NP_002368.1	1531	TRAFKDEMQPRRQKDNC	Homo sapiens
1749	159152	G Protein-Coupled	NP_005297.1	1578	ERYLGVAFPVQYKLSRRPL	Homo sapiens
		Receptor GPR43				
1750	159152	G Protein-Coupled	NP_005297.1	1586	<b>QYLNTTEQVRSGNEITC</b>	Homo sapiens
		Receptor GPR43				
1751	159152	G Protein-Coupled Receptor GPR43	NP_005297.1	1588	EGTNEDRGVGQGEGMPSSD	Homo sapiens
1752	159152	G Protein-Coupled	NP_005297.1	1616	RGLQVLRNQGSSLLGRRGKD	Homo sapiens
		Receptor GPR43				
1753	159973	Vasoactive Intestinal	P32241	1292	KACLEEAQLENETIGCS	Homo sapiens
1751	150073	Polypeptide Receptor 1	D320A1	1004	KDI AI EDSGESDOCSE	Homos
5		Polypeptide Receptor 1				
1755	159973	Vasoactive Intestinal	P32241	1297	LGKLRPPDIRKSDSSP	Homo sapiens
		Polypeptide Receptor 1				
1756	159973	Vasoactive Intestinal	P32241	1298	NPKYRHPSGGSNGATC	Homo sapiens
		Polypeptide Receptor 1				
1757	160040		P41587	12%	KVFSNFYSKAGNISKNC	Homo sapiens
		Polypeptide Receptor 2		-		
1758	96060	Vasoactive Intestinal	P41587	1301	CGYSDPEDESKITFY	Homo sapiens
1759	160040	Polypeptide Receptor 2 Vasoactive Intestinal	P41587	1305	KRKWRSRCPTPSASRD	Homo sapiens
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Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
CGSSFSRNGSEGALQFHR	REPPWPALPPCDERRCS	SPPSGPETAEAAALFSREC	RKSRPRGFHRSRDTAG	NPLVTGYLGRGPGLKTVC	GRYLGAAFPLGYQAFRRPC	CLEAWDPASAGPARFS	CLRALARSGLTHRRKLR	NASNVASFLYPNLGGSWRK	TVSLPLKAVEALASGA	DHSNTSLGINTPVNGSPVC	CSEAFPSRALERAFALY	ERAGAVRAKVSRLVAAVV	RRPGPSDPAAPHAELHRLGS	GAPANASGCPGCGANASD	DLFNHTLSECHVELSQST	NVLTACRURQPGQPKSRRHC	KD@TKAGTCASSSSCST@	KGDSQPAAAAPHPEPSLS	CRARRRQRSTKLNHVILA
-				<del>-</del> :	. ,						<b>.</b>								•
1306	132	134 135	136	1595	1596	1597	1598	1599	1617	1618	1926	1927	1928	1929	390	391	392	484	1977
P41587	AAC26081.1	AAC26081.1 AAC26081.1	AAC26081.1	NP_005294.1	NP_005294.1	NP_005294.1	NP_005294.1	NP_005294.1	NP_005294.1	NP_005294.1	BAB55446	BAB55446	BAB55446	BAB55446	015218	015218	015218	015218	LR85
Polypeptide Receptor 2 Vasoactive Intestinal	Motilin Receptor (GPR38)	Motilin Receptor (GPR38) Motilin Receptor (GPR38)	Motilin Receptor (GPR38)	G Protein-coupled Receptor	G Protein-coupled Receptor	G Protein-coupled Receptor GPR40	G Protein-coupled Receptor GPR40	G Protein-coupled Receptor GPR40	G Protein-coupled Receptor GPR40	G Protein-coupled Receptor GPR40	G Protein-Coupled	G Protein-Coupled Receptor GPR54	G Protein-Coupled Recentor GPR54	G Protein-Coupled Receptor GPR54	Adrenomedullin Receptor	Adrenomedullin Receptor	Adrenomedullin Receptor	Adrenomedullin Receptor	G Protein-Coupled Receptor RTA
160040	160055	160055	160055	160059	160059	160059	160059	160059	160059	160059	160189	160189	160189	160189	160202	160202	160202	160202	160204
1760	1761	1762	17.	1765	1766	1767	1768	1769	1770	1771	1772	1773	1774	1775	1776	7771	1778	9221	1780

									415/	/448										
Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	2	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens
CPGLSEAPELYRRGFLTIEQ	RDGAELGEAGGSTPNTVT	LAGRDKSQRLWEPLRV	RTTRKWNGCTHCYLAFNSD	RAKLLREGWVHANRPKR	RRVMLKEIYHPRMLLI	SALARAFGEEFLSSC	RSCSRKMNSSGCLSEE	PGPDRDATCNSRQAALAVSK	SSHAAVSLRLQHRGRRRPGR	DDSELGGAGSSRRRRTSSTA	DGPPFPGAFQHI FI FPGPRP		CPILEGMSRLQSHSNTSIRY	RYIDHAAVLLHGLASLLGLV	CRMRQIVVITWVLHLALSDL	SASLPFFTYFLAVGHSWE	CLVLWALAVLNTVPYFVFRD	CYYNVLLINPGPDRDAT	CNSRGAALAVSKFLLAFLVP	RGLPFVTSLAFFNSVANPVL
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1983	1985	2173	1678	1679	1680	1682	1683	151	152	153	154	<u> </u>	2220	2221	2222	2223	2224	2225	2226	2228
LR85	5821	LR85	NP_001497.1	NP_001497.1	NP_001497.1	NP_001497.1	NP_001497.1	AAD21055.1	AAD21055.1	AAD21055.1	AAD21055 1		NP_004769.1	NP_004769.1	NP_004769.1	NP_004769.1	NP_004769.1	NP_004769.1	NP_004769.1	NP_004769.1
G Protein-Coupled	Receptor RTA G Protein-Coupled Receptor RTA	G Protein-Coupled Receptor RTA	G Protein-Coupled	Receptor GPR32 G Protein-Coupled	Receptor GPR32 G Protein-Coupled	Receptor GPR32 G Protein-Coupled	G Protein-Coupled	G Protein-Coupled	Receptor GPR44 (CRTH2) G Protein-Coupled	Receptor GPR44 (CRTH2)  G Protein-Coupled	Receptor GPR44 (CRTH2) G Protein-Coupled	Receptor GPR44 (CRTH2)	G Protein-Coupled Recentor GPR44 (CRTH2)	G Protein-Coupled	G Protein-Coupled	Receptor GPR44 (CRIHZ)  G Protein-Coupled	Receptor GPR44 (CRIHZ)  G Protein-Coupled	Receptor GPR44 (CRTH2) G Protein-Coupled	Receptor GPR44 (CRTH2) G Protein-Coupled	Receptor GPR44 (CRTH2) G Protein-Coupled
160204	160204	160204	160206	160206	160206	160206	160206	160210	160210	160210	160210		160210	160210	160210	160210	160210	160210	160210	160210
781	782	783	784	785	1786	1787	788	789	790	791	8	!	793	794	795	962	197	1798	6621	800

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	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Mus musculus	Homo saplens
	CSRPEEPRGPARLLGWLLGS	CAASPQTGPLNRALSS	KEINDRRARFPSHEVDSSRE	CVKDQEAQEPKPRKRANS	RWTEWRILNMSSGIVNASER	HSCPLGFGHYSVVDVCIFE	GKVEKYMCFHNMSDDTWSAK	RSIHILLGRRDHTQDWVQQK	CRAKQSISFILQLSM	KEFRMNIRAHRPSRVQLVLQ	AGRPPTDVGQAEATRKAAR	KEFQEASALAVAPRAKAHK	GGFCFRSTRHNFNSMR	ETIRRALYITSKLSDANC	<b>FPPVIDGGGDDEDAPCALEQ</b>	RGARRLLVLEFKTEKRLC	NASEPGGSGGGEAAALGLK	GLRALACLPAVMLAARRA	RPAGPGRGARRLLVLE
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.•	2229	2230	444	445	446	622	161	162	183	20	8	ო	123	125	335	338	496	515	1291
	NP_004769.1	NP_004769.1	Q9Y2T5	Q9Y2T5	Q9Y215	Q9Y215	AAD22410.1	AAD22410.1	AAD22410.1	AAD22410.1	AAC52028.1	AAC52028.1	AAC52028.1	AAC52028.1	NS6	927	PR6	054897	921
	Receptor GPR44 (CRTH2) G Protein-Coupled	Receptor GPR44 (CRIHZ)  G Protein-Coupled  Bocoptor CBD44 (CBT42)	Receptor GPR44 (CRINZ) G Protein-Coupled Decentor GPP52	G Protein-Coupled	G Protein-Coupled	receptor GPR52 G Protein-Coupled	receptor GPR32 G Protein-Coupled Receptor GPR55	G Protein-Coupled	G Protein-Coupled	G Protein-Coupled	Receptor GPR55 G Protein-Coupled	Receptor GPR35 G Protein-Coupled	Receptor GPR35 G Protein-Coupled Receptor GPP35	G Protein-Coupled Recentor GPR35	G Protein-Coupled	Receptor GPKZ/ G Protein-Coupled	G Protein-Coupled	G Protein-Coupled	G Protein-Coupled Receptor GPR27
	160210	160210	160212	160212	160212	160212	160217	160217	160217	160217	160219	160219	160219	160219	160221	160221	160221	160221	160221
	1 1081	1802	1803	1804	1805	1806	1807	1808	1809	1810	1811	1812	1813	1814	1815	1816	1817	1818	1819

Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens		Homo sapiens	Homo sapiens	
CQRPPKPQEDGQPSPV	CNMIGDVTTEQYFALRRK	EGRADEQSAEAALAVP	QNFVGRRRYGAESQNPTVK	RIFRSIKOSMGLSAAQKAK	CDRFVAVVYALESRGRR	ATDHSRQEVSRIHKGWKE	KTDVTRLTHSRDTEELQS	ETGEGGSRSKRGTEDEEAK	SPNPDKDGGTPDSGQELR	CQLVTWRVRGPPGRKSE	AANGSDNKLKTEVSS	PRDSFRGSRSLSFRMRE	ERFATMVRPVAESGATKTSR	RLVQASGQKAPRPAAR	RAVEAHSGASTIDSSLRPRD	IFRLVQASGQKAPRPAAR	DSSLRPRDSFRGSRSLSFRM	RSLSFRMREPLSSISSVR	GPEDGGLGALRGLSVAASC	ANIGSLCVSFLQPKKE		ETIFNAVMLWEDETVVE	CNRKVYQAVRHNKATENKE	
1606	1607	1610	1611	1600	1601	1604	1605	403	404	405	406	20	. 71	72	73	1914	1915	1916	1917	1625		1626	1627	•
NP_057624.1	NP_057624.1	NP_057624.1	NP_057624.1	NP_037477.1	NP_037477.1	NP_037477.1	NP_037477.1	060883	060883	060883	060883	CAA04118.1	NP_003599.1		NP_003599.1	NP_003599.1								
G Protein-Coupled Recentor GP872	G Protein-Coupled Receptor GPR72	G Protein-Coupled Recentor GPR72	G Protein-Coupled	G Protein-Coupled	Receptor G2A G Protein-Coupled	Receptor G2A G Protein-Coupled	G Protein-Coupled	Endothelin Type B Receptor-	Uke Protein 2 (ETBR-LP-2) Endothelin Type B Receptor- Like Protein 2 (ETBR-LP-2)	Endothelin Type B Receptor-	Endothelin Type B Receptor- Like Protein 2 (ETBR-1P-2)	Sphingolipid Receptor Edg6	Sphingolipid Receptor Edgé	Sphingolipid Receptor Edg6	T-Cell Death-Associated	Gene 8 (GPR65)	T-Cell Death-Associated Gene 8 (GPRAS)	T-Cell Death-Associated	Gerra o (Gerrado)					
160222	160222	160222	160222	160223	160223	160223	160223	160224	160224	160224	160224	160225	160225	160225	160225	160225	160225	160225	160225	160228		160228	160228	
820	821	822	823	824	1825	1826	1827	1828	829	830	1831	1832	833	834	835	1836	837	838	839	8		841	842	

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Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens		Homo saplens		Homo sapiens		Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens		Homo sopiens			Homo sapiens		Homo saplens	
CILEHAVNFEDHSNSGKR	CNTSQRQRKRILSVSTKD	CDAEKSNFTLCYDKYPLEK	CTVDWKSKDANDSSFV	CVEDLQTIQVIKILKYEK	CORPAKDLPAAGSEMQIRP	TSDESLSVDDSDKTIG	<b>ERHVAIAKVKLYGSDKSC</b>	RSRDLRREVLRPLQC	QEHYNYTKETLETØET	GRRRVGTPGHHLLPLR	MMRKKAKFSLRENPVEETKG	MIMIEYSNFEKEYDDVTIKM		CEQTEEKKKLKRHLALFRSE		KKRVGDGSVLRTIHGKEMSK		DRARRERFIMNEKWDTNSSE	RKNGEQWHVVSRKKGKIIK	RKSAEKPGGELVMEELKE	RQSAGDRRRLGLSRQTAK	DRFLKIIRPLRNIFLKKP		MISNKEATPSSVKKC			VYDSYRKSKSKDRKNN		ARVPYTHSQTNNKTDC	
1628	1629	2303	2131	2132	2133	2134	8101	9101	1020	. 1201	1922	 1923	•	1924		1925		463	464	465	 200	. 6191		0291	·.		1622		1623	
NP_003599.1	NP_003599.1	NP_003599.1	NP_055137.1			NP_055137.1					ENSMPRT221753	ENSMPR7221753		ENSMPRT221753		ENSMPRT221753			G9Y5X5		G9Y5X5	NP_076403.1		NP 076403 1			NP_076403.1		NP_076403.1	
T-Cell Death-Associated Gene 8 (GPR65)	sociated	ociated		Encephalopsin	Encephalopsin			Sphingolipid Receptor Edg5	Sphingolipid Receptor Edg5			70		מ	Receptor GPR103	ס	Receptor GPR103			Neuropeptide FF 2 Receptor	Neuropeptide FF 2 Receptor	G Protein-Coupled	Receptor	G Protein-Coupled	Receptor	GPR86/GPR94/P2Y13	G Protein-Coupled	Receptor GPD86/GPD04/P2V13	G Protein-Coupled	Receptor GPR86/GPR94/P2Y13
160228	160228	160228	160300	160300	160300	160300	160312	160312	160312	160312	160314	160314		160314		160314	1	160317	160317	160317	160317	160324		160324	3		160324		160324	
1843	184 44	1845	1846	1847	18 <u>48</u>	1849	1850	1851	1852	1853	1854	1855		1856		1857		1858	1859	1860	1861	1862		1863			1864		1865	

								41	71 <del>44</del> 0													
Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	•	Homo sapiens	
CMGGRKTTASSQENHSSQTD	CANDSDTLELPDSSRA	PLRARALRGRRLALGLC	LGRQTFRLARSDRVLC	RDKVRAGLFQRSPGDT	CELKRDLQLLSQFLKHPQK	TSVRFMGDMVSFEEDR	ROEEEQSEIMEYSVLLP	RTLFQRTKGRSGEAEKR	GSLLEETTRKWAQYKQAC	QTIENATDIWQDDSEC	CPKKLSEGDGAEKLRK	QQDHARWPRGSSLSEC	EPTSTHESEHQSGAWC	CEPREVRRYQWPATQQ	RSCDFPGDGGPEPPR	CTAEDGATSRPLSSPPGRDS	RESAGKNYNKMHKRERTC	RDSPSYPDSSPEGPSEALP	<b>QVGPCRSLGSRGRGSSGAC</b>		CRDAGTELTGHLVPHHDGLR	
1624	1308	1309	1310	. 1181	1213	1214	1215	1216	1312	1313	1315	1316	1121	1126	1129	1131	1706	1707	1938		1939	
NP_076403.1	076067	076067	076067	076067	Q9Y653	Q9Y653	Q9Y653	Q9Y653	095838	095838	095838	095838	094910	094910	094910	094910	094910	094910	NP_001399.1		NP_001399.1	
G Protein-Coupled	receptor GPR86/GPR94/P2Y13 Proteinuse-Activated	receptor 4 Proteinase-Activated Deceptor 4	Proteinase-Activated	Proteinase-Activated	Receptor 4 G Protein-Coupled- Deceptor TA7XN1 (CPD54	G Protein-Coupled-	G Protein-Coupled-	G Protein-Coupled-	Glucagon-Like Peptide 2	receptor Glucagon-Like Peptide 2 Receptor	Glucagon-Like Peptide 2 Receptor	Glucagon-Like Peptide 2 Receptor	Latrophilin-1	Latrophilin-1	Latrophilin-1	Latrophilln-1	Latrophilin-1	Latrophilin-1	Cadherin EGF LAG Seven-	Pass G-Type Receptor 2 (CELSR2)	Cadherin EGF LAG Seven- Pass G-Type Receptor 2	
160324	160329	160329	160329	160329	160330	160330	160330	160330	160387	160387	160387	160387	160388	160388	160388	160388	160388	160388	160390		160390	
1866	1867	1868	1869	1870	1871	1872	1873	· 1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885		1886	

										42	20/-	148	}																
Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo soniens		Homo sapiens		Homo sapiens		Homo sapiens		Homo saplens		Homo sapiens		Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens		Homo sapiens		Homo saplens
CKLAQAPGLRAGERSPEESL	RVSDTPEGVNSLDPSHGES	RSGKSQPSYIPFLLREES	CEALDSKGIKWPQTQR	DILDAQLQELKPSEKD	RIHSLLYQPQKKVKSE	RDSPYPESSPDMEEDL	CGEGKMLRTLDLSYNNIRD	CDSYANI NIEDNSI OD		KGTADAANVTSTLENEE		<b>ERSLSAKDIMKNGKSNHLK</b>		CNLEKEDLSENSQSSMIK		KRRVTKKSGSVSVSIS		CGTQSAHSDYADEEDS		DEEDSFVSDSSDQVQAC	ATILKLIRTEEAHGREGRR	CRRVPRDTLDTRRESLFSAR	PLSSKRWRRRYAVAAC	CRRMGPRSPSVIFMINL	MMIPIKDIKEKSNVGC		CLVIRQLYRNKDNENYP		CSTRISLFKAKEATLL
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1940	1942	1943	1132	1133	1136	1137	1630	1631		1632	-	1633	,	1634		1635		1636		1637	1918	6161	1920	1921	1223		1224		1225
NP_001399.1	NP_001399.1	NP_001399.1	095490	095490	095490	095490	NP_060960.1	NP 060960.1		NP_060960.1		NP_060960.1		NP_060960.1		NP_060960.1		NP_060960.1		NP_060960.1	1780	LR80	082J	082J	014626		014626		014626
Cadherin EGF LAG Seven- Pass G-Type Receptor 2	(CELDIZZ) Cadherin EGF LAG Seven- Pass G-Type Receptor 2 (CEI SP2)	(CELNIZ) Codherin EGF LAG Seven- Pass G-Type Receptor 2	(CELLINZ) Latrophilin-2	Latrophilin-2	Latrophilin-2	Latrophilin-2	G Protein-Coupled	G Protein-Coupled	Receptor GPR48	G Protein-Coupled	Receptor GPR48	G Protein-Coupled	Receptor GPR48	G Protein-Coupled	Receptor GPR48	G Protein-Coupled	Receptor GPR48	G Protein-Coupled	Receptor GPR48	G Protein-Coupled	receptor GPK48 LS160435 Receptor	LS160435 Receptor	LS160435 Receptor	LS160435 Receptor	Platelet Activating Receptor	Homolog (H963)	Platelet Activating Receptor	Homolog (H963)	Platelet Activating Receptor
160390	160390	160390	160397	160397	160397	160397	60411	160411		160411		16641		16041		160411		16641		16041	60435	60435	60435	160435	68809		160889		160889
1887	1888	1889	1890	1891	•	•	1894	1895		1896		1897		1898 1		1899		<u>8</u>		1961	1902	_	_	1905	1906		1907		1908

,	wo	02	/06	10	87										4	121/	44	8								P	СТ	/U:	S01	/50	)10	7
		Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens		Homo sapiens		Homo saplens	Homo saplens		Homo sapiens	Homo sapiens	Homos caroleos		Homo saplens		Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Equine herpesvirus	2
ETEASPKETKA OKEVI PC		ESRAVGLPLGLSAGRRC	EDARGKRRSSLDGSESAK	RTVWEQCVAIMSEEDGD	CKVRFDANGATGPGSRD	RRLSHDETNIFSTPRE	GGPPEYLGQRHRLEDEED	REEITTFIDETPLPSP	RRPRPLGLSPRRLSLGSPE	RYGALELCVPAWEDARR	GAAAAEARRRATGRAGR	ASRHFRARFRRLWPC	RARRALRRVRPASSGPP	ERYAAVLRPLDTVQRPKG		RAYRRSQRASFKRARRPGAR		RNYRDHLRGRVRGPGSG	RARFGRCSGRSLSCSPQPTD		ARGHFDPEDLNLTDEALRLK	IGLRLRRERLLLMQEAKGRG	RSSAAARSRYTCRI GGH		ALCLGACCHRLRPRHSS		CFFLLKPFRARDWKRRYD	PFPILRSTDLNNNKSC	QLSRHGSSVTRSRLMSKE	LRQPPMAFQGISERQK	<b>YYDDLDDVDYEESAPC</b>	
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1226	2	1690	1691	1692	1693	1694	1695	1696	. 1697	202	203	204	505	371		372		373	. 374		394	395	396		397		820	980	862	863	1672	
014626	)	NP_062832.1	NP_062832.1	NP_062832.1	NP_062832.1	NP_062832.1	NP_062832.1	NP_062832.1	NP_062832.1	AAC35944.1	AAC35944.1	AAC35944.1	AAC35944.1	LR15		LR15		เการ	LR15		LR20	UZ20	1620		LR20		000398	000398	000398	000398	NP_042597.1	
Homolog (H963) Platelet Activating Receptor	Homolog (H963)	Protein A	Protein A	Protein A	Protein A	Protein A	Protein A	Protein A	Protein A	Galanin Receptor GaIR3	Galanin Receptor GalR3	Galanin Receptor GaIR3	Galanin Receptor GalR3	Urotensin-II Receptor	(GPR14)	Urotensin-II Receptor	(GPK14)	Urotensin-II Receptor (GPR14)	<b>Urotensin-II Receptor</b>	(GPR14)	G Protein-Coupled Receptor GPR66	G Protein-Coupled	Receptor GPR86 G Protein-Coupled	Receptor GPR66	G Protein-Coupled	Receptor GPR66	Purinergic Receptor P2Y10	Purinergic Receptor P2Y10	Purinergic Receptor P2Y10	Purinergic Receptor P2Y10	G Protein-Coupled	Receptor Ls 161293 (Herpes virus)
		61024	61024	61024	161024	161024	161024	161024	161024	161214	161214	161214	161214	161221		161221		161221	161221		161249	161249	161249		161249		161251	161251	161251	161251	161293	
10061		_		_	_	_	•	•	•			1920	1221	1922		1923		1924	1925		1926	1927	1928		1929					_	1934	

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	Equine herpesvirus 2	Equine herpesvirus 2	Equine herpesvirus 2	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens Homo sapiens	Homo sapiens		sileidos officia	Homo sapiens	Homo sapiens				
	CDPYYPEMSTNVWRRAHVAK	CYYVIIRRLIRRPSKK	CKMPFLSGDGEGKEGPT	RNLTSSPAPTASPSPAPS	PSWTPSPRPGPAHPFLQPP	RSSHQKRGTTRDVGSNVC	KSTSTTASFVSSSHMSVEE	<b>TSSPFLMAKP@KDEKNNTKC</b>	KKSMKKNLSSHKKAIG	<b>ORTHUFFHNETKPC</b>	RKHSLSSVTYVPRKKASLPE	RAVSYRAQQGDIRRAVRK CORTEI BI DGARFAAGPF	QSFTQRFRLSRDRKVA	RYGVGEAAVGAEAGEAILG SSRGTERPRSLKRGSKPSAS	KPSASSASLEKRMKMVS PTI ESEVERATIPPANIP		RPENSIX GELAVICA APV	CAVLSHRRAGPWALLLV	RVLVSDSLFVICALSL				
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٠.	1674	1675	1676	1820	1821	1822	1823	1317	1318	1319	1320	474	476	1477	1479		88	2059	2733				
													: •								•		
	NP_042597.1	NP_042597.1	NP_042597.1	VP_006670.1	NP_006670.1	NP_006670.1	NP_006670.1	G9Y271	Q9Y271	Q9Y271	Q9Y271	Q9Y5N1 G9Y5N1	G9Y5N1	G9Y5N1 G9Y5N1	Q9Y5N1 NP 064540 1		NP_004540.1	NP_064540.1	NP_064540.1				
	otein-Coupled optor Ls 161293 (Herpes	G Protein-Coupled Receptor La 161293 (Herpes	otein-Coupled optor Ls 161293 (Herpes	virus) Neuromedin K Receptor-Like NP_006670.1 (AIK-AD)	(1977-197) New York Receptor-Like NP_006670.1	(NP-487) (NP-487) (NP-487) (NP-487) (NP-487)	(NAC-415) Nacomedin K Receptor-Like -NP_006670.1	yl Leukotriene CYSLTI	Leukotriene CYSLT1	Leukotriene CYSLT1	Receptor Cystelnyl Leukotriene CYSLT1 (	H3 Receptor		Histamine H3 Receptor Histamine H3 Receptor			Receptor ORF4	peld	þej				
	161293	161293	161293	177147	177147	177147	177147	177168	177168	177168	177168	191771		177191		1 00	/96//1	177387	177387				
	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946		1949		-	3	1954	1955				

										7.	23/4	P#0														
	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saniens		Homo sapiens			Homo sapiens		nomo sapiens	Homo sapiens	Homo capiens		Homo saplens
	KRKTNVLSPHTSGSIS	CFSQENPERRPSRIPST	SYKDEDMYGTMKKMIC	VERHMSIMRMRVHSN	CQRMDTVTMKALALLAD	CSLRLPPEPERPRFAAFTAT	RGPLPPGICAHSAGGALRR	CRGAGARDLGAPWAVGLRSL	QQKLEDPFQKHLNSTEE	KKDKSLEADEGNANIQRPC	SQHDPQLPPAQRNIFLTEC	ILHPFRAKLØSTRRRALR Official Colored	CKKRGIKIGNLRNGIIRSK	EKPSSPSSGKGKTEKAE	PSVODNDPIPWEHEDGETGE		KKPPTVSESQETPAGNSEG		LVIVISEETIKE GENG V WA	GLPDKVPSPESPASIPEK		POVER WHENCIVES VO	RHHEGVEMCLVDVPAVAEE	RVPOTPGPSTASGVPF		ETPRGRSESLSSRSTMVTS
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	1014	1015	9101	1017	443	528	533	534	420	422	423	487	4 5	418	410	ì	486	0691	7001	1833		1934	1835	1685		1686
	AAF00530.1	AAF00530.1	AAF00530.1	AAF00530.1	LR37	LR37	LR37	LR37	LR28	U728	LR28	LR28		LR27		ì	LR27	. 7		LR27		72/	UR27	AAK12637 1		AAK12637.1
	Lysophosphatidic Acid	Receptor Edg/ Lysophosphatidic Acid Becentor Edg?	Receptor Edg/ Lysophosphatidic Acid Beceptor Edg/	Receptor Edgy Lysophosphatidic Acid Receptor Edgy	G Protein-Coupled Receptor GPR78	Neuromedin U Receptor 2	G Profein-Coupled Receptor LS 189884	G Protein-Coupled	Receptor LS 189884 G Protein-Counted	Receptor LS 189884	G Protein-Coupled	Receptor Ls 189884	Receptor Ls 189884	G Protein-Coupled	Receptor Ls 189884	G Protein-Coupled Receptor 1s189884	G Protein-Coupled	Receptor Ls189884 G Protein-Coupled	Receptor GPR61	G Protein-Coupled						
	180956	180956	180956	180956	189873	89873	189873	189873	189874	89874	189874	89874	87884	89884	189884	}	189884	Nagoa (	5	189884	,	104004	189884	180805		189895
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	1956	1957	1958	1959	1960	1961	1962	1963	198	1965	386	7961	<u>8</u>	1969	1970		1971	1072	7//	1973	,	14/4	1975	1976		1977

Receptor GPR6

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Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	
CVAFPLAVGNPDLQIPSR	NTLRHNALRIHSYPEGIC	QASKLGLMSLQRPFQMSID	DMMPKSFKFLPQLPGHTKRR	<b>GNLKDPVQIKIKHTRTQE</b>	KNKSFGGWNTSGCVAHRD	RNNNEVYGKESYGKEKGDE	CGRNGKRSNRTLREEVLR	TSKSKSSSTTYFKRNSHTD	DKSLSKLAHADGDQTS	LFPLLRTSDDTPGNRTKC	<b>QDKYPMAQDLGEKQKALK</b>	SFPLDFLVKSNEIKSC	RRRLSRQDLHDSIQLHAK	KGEAKLDSRAKDVTLTIQE	DHKEQPIVTENAERQLVVKD	EDFEEQ1LTUFLDGERERK	EGKEGDYIRIPERLLDVQD	
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1721	1722	1723	1724	1715	1716	7171	1718	9121	1720	407	. 408	406	410	1725	1727	1728	1729	
AAK12639.2	AAK12639.2	AAK12639.2	AAK12639.2	Q9Y3K0	Q9Y3K0	Q9Y3K0	Q9Y3K0	Q9Y3K0	Q9Y3K0	LR24	LR24	LR24	LP24	AAD55586.1	AAD55586.1	AAD55586.1	AAD55586.1	
G Protein-Coupled Receptor GPR63 (PSP24	G Protein-Coupled Receptor GPR63 (PSP24	G Protein-Coupled Receptor GPR63 (PSP24 beta)	G Protein-Coupled Receptor GPR63 (PSP24 Peta)	G Protein-Coupled	G Protein-Coupled	G Protein-Coupled	Receptor U/20/914.2 G Protein-Coupled Beceptor Di287414.2	G Protein-Coupled	Receptor D/26/914.2 G Protein-Coupled Peceptor D/287414.2	Receptor Dizave 4.2  G Protein-Coupled  Deceptor ICC18	G Protein-Coupled	Receptor JEG 18 G Protein-Coupled	Receptor JEG 18 G Protein-Coupled	Receptor JEG18 G Protein-Coupled	Receptor VLSR1  G Protein-Coupled	Receptor VLORI  G Protein-Coupled	G Protein-Coupled	
189920	189920	189920	189920	189945	189945	189945	189945	189945	189945	190026	190026	190026	190026	190031	190031	190031	190031	
1 9661	1997	1998	1000	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	ר ווסכ	2012	2013	

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Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo saplens
SEAYADGIEGYDILVACSSS	NNLRENGNNGVKKDKKAAK	DPFLNFSTPVVLFDALT	GKIFSSCFHNTILCMQKE	CPKFVNKILSSHQPLFS	KGHARVISHVPENTKGAVKK	ENTKGAVKKHLSKKKDRKA	CKFHTSFDMMLRLTSI	ENHDQDLDELQLEMEDSKP	NPHFRDDLRRLRPRAGDS	EDLHLDDEESSKRPLGLLAR	DSGPLAYAAAGELEKSSC	CAARRQHALLYNVKRHSLE	DGSLKAKEGSTGTSESSV	CSIDLGEDGMEFGEDDIN	SEDDVEAVNIPESLPPS	MHKTIKKEIQDMLKKFFC	KEDSHPDLPGTEGGTEG	RQVKRAAQALDQYKLRQAS
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324	326	379	380	327	328	329	330	439	044	442	621	1836	1837	1838	1839	1840	1841	343
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AAF27278.1	AAF27278.1	AAF27278.1	AAF27278.1	AAF27279.1	AAF27279.1	AAF27279.1	AAF27279.1	LR36	ЦК36	LR36	LR36	CAC33098.1	CAC33098.1	CAC33098.1	CAC33098.1	CAC33098.1	CAC33098.1	<sub>.</sub>
<b>R</b>	Receptor GPR58 G Protein-Coupled	D	D M	þ	p <sub>a</sub>	pe	<b>D</b>	þ	pelc	receptor Lero G Protein-Coupled	þek	receptor Lerko G Protein-coupled Receptor ( GPD101	in-coupled Receptor	nation-Related G				
9 891061	190168	891061	991061	021061	071001	021061	021061	190188	981001	190188	190188	190414	190414	190414	190414	190414	190414	190418
2014 19	2015 19	2016 19	2017 19	2018 19	2019 19	2020	2021 19	2022 19	2023 19	2024 19	2025 19	2026 19	2027 19	2028 19	2029 19	2030 19	2031 19	2032 19

	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens					
	RTDEAMPGRFQELDSRLASG	DSSEVGDQINSKRAKQMAEK	KAQPIKGARRAPDSSSEFGK	RRKSNFRLRGYSTGKT	RRGKSSYNYLLALAAAD	CFLTSIPYYWWPNIWT	CSIFFILNSIIVYKLR	GRUYSLLSFISIPH	FFLFLWIHVDRE	MDPTISTLDTELTP	ASSIMILDSGSEQNGSVTSC	RVLLKVEVPESGLRVSHRK	KDRLKSALRKGHPQKAKTKC	MEPNGTFSNNNSRNC	CTIENFKREFFPIVYLIF	GVLGNGLSIYVFLQPYK	ADYYLRGSNWIFGDLAC	FRLLHVTSIRSAWILC					
and the state of t	a tant . Tants.	in en		Arrest Arrest		digram so	in the book of	ara-ir			ng bining Ty t steel	in production of the state of t	ingan a inga ega			-	1 48 7 5. 	3	· d str	30 Lil 2 1		1145.9 -	**
	344	345	346	2716	7172	2719	2725	2754	2755	2756	471	472	473	512	2253	2254	2255	2256					
·	L78	R8	827	CAC33085.1	CAC33085.1	CAC33085.1	CAC33085.1	AAK91804.1	AAK91804.1	AAK91804.1	LR49	UR49	LR49	LR49	NP_065110.1	NP_065110.1	NP_065110.1	NP_065110.1					
	EX33 Inflammation-Related G Protein-Coupled Receptor	Exss Inflammation-Related G Protein-Coupled Receptor Exss	Inflammation-Related G Protein-Coupled Receptor	G Protein-Coupled	Receptor Lativativ G Protein-Coupled Peceptor Islandio	G Protein-Coupled	Receptor LS 1994 19 G Protein-Coupled	Receptor LST 90419 MrgX1 G Protein-Coupled	MrgX1 G Protein-Coupled	keceptor MrgX1 G Protein-Coupled	receptor Cysteinyl Leukotriene CYSLT2 Popping	receptor Cystelnyl Leukotriene CYSLT2 LR49 Deceptor	receptor Cysteinyl Leukotriene CYSLT2 LR49	Cysteinyl Leukotriene CYSLT2 LR49	reception Cysteinyl Leukotriene CYSLT2 NP_065110.1	receptor Cysteinyl Leukotriene CYSLT2 NP_065110.1	receptor Cysteinyl Leukotriene CYSLT2 NP_065110.1	receptor Cysteinyl Leukotriene CYSLT2 NP_065110.1					
	190418	190418	190418	190419	190419	190419	190419	190421	190421	190421	190427	190427	190427	190427	190427	190427	190427	190427			•		
	2033 19	2034 1	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046 1	2047	2048	2049	2050 16					

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Homo sapiens	KKKRMAMARRTMFQKGE	1731	NP_057418.1	G Protein-Coupled	190595	2069
Homo sapiens	RNVTDTDILALERRLLQ	1730	NP_057418.1	G Protein-Coupled	190595	2068
Homo saplens	RSDPTAQPQLNPTAQPQSD	437	LR33	G Protein-Coupled	190484	2067
Homo sapiens	EERPGSFTPTEPQTQLDSEG	436	LR33	G Protein-Coupled	190484	. 2066
Homo sapiens	RTCHRQQQPAACRGFARVAR	435	LR33	G Protein-Coupled	190484	2065
Homo sapiens	EADLGATGHRPRTELDDED	434	LR33	G Protein-Coupled	190484	2064
Homo saplens	TERLKIRWHTSDNQVRPQAC	2585	ENSP00000080322	G Protein-Coupled	190438	2063
Homo sapiens	MGNDSVSYEYGDYSDLSDRPVDC	2818	NP_060955.1	G Protein-Coupled Receptor C512	190437	2062
Homo saplens	CHWALRESQGQDESVDSKKS	432	ന്ദ്രാ	G Protein-Coupled Receptor C512	190437	2061
Homo sapiens	PSAIYRRLHGEHFPARLGC	431	LR31	G Protein-Coupled	190437	2060
Homo saplens	RESQGQDESVDSKKSTSHD	430	reg1	G Protein-Coupled	190437	2059
Homo sapiens	DSVSYEYGDYSDLSDRPVDC	429	LR31	G Protein-Coupled	190437	2058
Homo sapiens	HPGKAKTKCVFPVSVWLRKE	2264	2 NP_065110.1	Cystelpriol Cystra NP_065110.1	190427	2057
Homo sapiens	YFAGENFKDRLKSALRKG	2263	2 NP_065110.1	Receptor Cysteinyl Leukotriene CYSLT2 NP_065110.1	190427	2056
Homo sapiens	CKDRLHKALVITLALA	2262	2 NP_065110.1	Receptor Cysteinyl Leukotriene CYSLT2 NP_065110.1	190427	2055
Homo saplens	CFLPYHTLRTVHLTTWKVGL	2261	2 NP_065110.1	Receptor Cysteinyl Leukotriene CYSLT2 NP_065110.1	190427	2054
Homo sapiens	VSHRKALTIIITUIFFLC	2260	2 NP_065110.1	Receptor Cysteinyl Leukotriene CYSLT2 NP_065110.1	190427	2053
Homo saplens	CLELNLYKIAKLQTMNYIAL	2258	2 NP_065110.1	cystelnyl Leukotriene CYSLT2 NP_065110.1	190427	2052
Homo sapiens	CGIIWILIMASSIMLLDSGS	2257	2 NP_065110.1	Receptor Cysteinyl Leukotriene CYSLT2 NP_065110.1	190427	2051
	ند د د د د د د د د د د د د د د د د د د	Market (1966) (Artist (1966) (		·	Ga e	

G Protein-Coupled Receptor SH120 G Protein-Coupled Receptor SH120 G Protein-Coupled NP_057418.1	NP_05741 NP_05741 NP_05741	8.1 18.1 18.1	1732 1733 1734	KSVTTSASGSENLTUQQE  EVDALEELSRQLFLETAD  DRVGKTDPVTRGIEIT	Homo sapiens Homo sapiens
Receptor SH120 G Protein-Coupled Ceceptor GPRC5B G Protein-Coupled Ceceptor GPRC5B	O75205 O75205		411	VRLPFIKEKEKKSPVGLH  DEHNAALRTAGFPNGSLGKR	Homo saplens Homo saplens
G Protein-Coupled O75205 Receptor GPRC5B O75205 G Protein-Coupled O75205 Receptor GPRC5B O75205	O75205 O75205		£ 4 6	GKRPSGSLGKRPSAPFRSNV SQPRMRETAFEEDVQLPR	Homo saplens Homo saplens
0.0-0.	CAB55314.1 CAB55314.1		619	PESSHSSYTVRSKKIFLSKL  GKILLNILTLGMRRKNTCQN	Homo saplens Homo saplens
) GPR42			2137 2138 2139 2140 1735	CKGNGESLWGRGRLGSE CKGNGESLWGRGRLGSE RHSRPYPSYRSTHRST TSHTSNLSWISIRRRGE DLEAKAPPRPGGHEAET KLGRRPVAVDVLLLNLTASD	Homo sapiens Homo sapiens Homo sapiens Homo sapiens Homo sapiens
G Protein-Coupled NP_005295.1 Receptor GPR41 & GPR42 G Protein-Coupled NP_005295.1 Receptor GPR41 & GPR42 G Protein-Coupled NP_005295.1			1736 1737 1738	KTRPRLGGAGLVSVAC EFSGDISHSQGTNGTC SRLVWILGRGGSHRRQRR	Homo saplens Homo saplens
Receptor GPR41 & GPR42 G Protein-Coupled Receptor GPR41 & GPR42 G Protein-Coupled Receptor GPR41 & GPR42 G Protein-Coupled G Protein-Coupled G Protein-Coupled NP_005295.1	•		1739	GQWQQESSMELKEQKGG EEQRADRPAERKTSEHSQGC MDTGPDQSYFSGNHWFVFSV	Homo saplens Homo saplens Homo saplens

Homo saplens	VLMAATHAVYGKLLLFEYR	, , ,	27/		\$	STADS	14/5	7117
Homo sapiens	KKCLRTHAPCWGTGGAPAPR		526		& <u>'</u>	Sreb3		2111
Homo saplens	S NGHAASRRLLGMDEVKGEK		519	•	&	Sreb3	190741	2110
Homo sapiens	EPEEVSGALSPPSASAYVK	11.4	516		& <u></u>	kecepioi Grikzo Sreb3	190741	2109
Homo sapiens	CLEEGKRRRGRATKKIST	\$	292		9ZÚ1	G Protein-Coupled	190725	2108
Homo sapiens	CKEILNRLLHRRSIHSSG	· • • •	257		LR26	G Protein-Coupled	190725	2107
Homo sapiens	CSRRPDERLRFAVFTGA		555		P28	G Protein-Coupled Receptor GPR26	190725	2106
						Receptor GPR26		
Homo sapiens	PLTLAGVVARROPAGDRLC		<b>3</b> 3		1K26	Receptor GPR85 (SREB2) G Protein-Coupled	190725	2105
Homo sapiens			342		CAB82307.1	G Protein-Coupled	11001	2104
Homo sapiens	RRRLLVLDEFKMEKRISR		34		CAB82307.1	G Protein-Coupled	11/061	2103
Homo sapiens	HDRRKMKPVQFVAAVSQN		340		CAB82307.1	G Protein-Coupled Recentor (SPRS)	11001	2102
Homo sapiens	AFPPVLDVGTYSFIREEDQC		336	•	CAB82307.1	G Protein-Coupled Receptor GPR85 (SREB2)	117061	2101
Homo sapiens	# RPFTATTKPEHEDQGLQ		1745		NP_057652.1	G Protein-Coupled Receptor SALPR	190705	2100
Homo sapiens	CLVRREFRKALKSLLWR		1744		NP_057652.1	G Protein-Coupled Receptor SALPR	190705	20 <b>3</b>
Homo sapiens	KGGAAVAGGKPIGASAKK		743		INF_U3/032.1	G Protein-Coupled Receptor SALPR	60/06	000
	of Section	"A , S.		-		Receptor SALPR		
Homo saplens	HSVASALKSHRTRGHGRGDC		1742		NP 057652.1	receptor salark G Protein-Coupled	190705	2097
Homo sapiens	GHPPGSGGAESADTEARVR		1741		NP_057652.1	G Protein-Coupled	190705	2096
Homo sapiens	ROSVEEFPFDSEGPTEP		1444		AAF61299.1	C-C Chemokine Receptor	190701	2095
Homo saplens	CNMSKRMDIAIQVTESI		1443		AAF61299.1	C-C Chemokine Receptor	190701	2094
Homo sapiens	VAVTKVPSQSGVGKPCWII		1442		AAF61299.1	C-C Chemokine Receptor	190701	2093
Homo sapiens	VAIYAYYKKQRTKTDV	and American	144		AAF61299.1	Receptor GPR41 & GPR42 C-C Chemokine Receptor	190701	2092
	మ్మాన్రామాన్ని ఇచ్చారు? క్రామ్లో శ్రీశ్రీ స్వామ్మార్క్ ఈ క్రామ్ మర్చు అరెక్టి మ్మాన్రామాన్ని ఇచ్చారు? క్రామ్లో శ్రీశ్రీ స్వామ్మార్క్ స్టామ్ స్టామ్ స్టామ్ స్టామ్ స్టామ్ స్టామ్ స్టామ్ స్టామ్	Constitution of the second of						

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RRAPGPPSDTFVFNLALAD	<b>QRRQRRRQDSRVVARSVR</b>	RREPROALAGTFRDLRSR	KQVGRRWVASNPRESRPS	KDCIESTGDYFLLCDAEGP	VENQELSRGTFLGDSGSR	<b>GDSGSREVLLQEKQEKNHA</b>	SMLLRGNPQFQRQPQWDDP	KVPSEELTTSSSHGPPPTAR	RGSGEGGPQGNSSAGWAV	- ADTKKRSLLGTQVFFLLGT	KEGKGGSMFVENKAFSMDF		TATEIRNØVKKEMILAKR	NYRQRKSMDSKGQKTYAPS	SCSNLTVLVMRKNKINHLN	DELDLGSNKIENLPPLIFKD		DMI KIASMHSOOIRKMEHAG	AGGYRSPRIPSDFKALRIVS	RESSCHIVTISSSEFDG	GVKKVLTSFLLFLSARNC	NSLLNPUYAYWQKEVRLQ	RRAALRPPRPARGSRLRSD
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G Protein-Coupled	Receptor H7TBA62 G Protein-Coupled	G Protein-Coupled	Receptor H718A62 G Protein-Coupled	Receptor H71BA62 G Protein-Coupled	Receptor GPRC3D  G Protein-Coupled	Receptor GPRC5D G Protein-Coupled	G Protein-Coupled	Receptor GPRC3D G-Protein-Coupled	Receptor GPRC5C G Protein-Coupled	Receptor GPRC5C G Protein-Coupled	Receptor GPRC5C G Protein-Coupled	Receptor GPRC5C	G Protein-Coupled Receptor LGR7	G Protein-Coupled	G Protein-Coupled	Receptor LGR7 G Protein-Coupled	Receptor LGR7	GPCR 13190748	GPCR Ls 190748	GPCR Ls 190748	GPCR LS 190748	GPCR L3190748	G Protein-Coupled
190742	190742	190742	190742	190743	190743	190743	190743	190744	190744	190744	190744		190745	190745	190745	190745	07.000	190748	190748	190748	190748	390748	190749
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	romo sapiens	Homo sapiens	Homo sapiens	Homo saplens		s pidos ocion	Homo sapiens		Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	andiana omon	STEEDS OFFICE	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo saniens		Homo sapiens						
	I KPVIKLALGIKLSIKIKALPGPVIK	DSRLSILPPLRPRIPGGK	RPPEGPAVGPSEAPEQTPE	VVARRAALRPPRPA		13EA E GITELAGGR	GPSEAPEQTPELAG		PUINSIINISISIIKVITAFF	VVDKNLRHRSSYFFLN	LYIPHTLEEWDFGKEIC	1 TOHTGVLKIVTLMVAV	VNGPMILVSESWKDEGSEC	CEPGFFSEWYILAITSFL	S AYFNMNIYWSLWKRDHLSRC	CGHSFRGRLSSRRSLS	I ASKMGSFSQSDSVALHQRE	IVLSFYSSATGPKSVWYRIA	IIRVITVPGKTGTVAC			RIRELLQGMYKEIGIAVD	TQTSDTATNSTLPSAE	TEVPDSAQTSNTHTTSAS	GDTAVERLNVFITMAKV	S MSI AKRVATGI WIETI		LHFIIGETVPMSIITV
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Ç	U448	LR48	LR48	LR48	. 070	9	LR48		NP_06/63/.2	NP_067637.2	NP_067637.2	NP_067637.2	NP_067637.2	NP_067637.2	NP_067637.2	NP_067637.2	NP_067637.2	NP_067637.2	NP_002020.1	ניססססס מוא	14P_002020.1	NP_002020.1	NP_002020.1	LR14	IR14	7101		LR14
Receptor GPR62	G Protein-Coupled Receptor GPR62	G Protein-Coupled	G Protein-Coupled	Receptor GP1802 G Protein-Coupled	Receptor GPR62	Receptor GPR62	G Protein-Coupled	Receptor GPR62	Histamine H4 Receptor	Histamine H4 Receptor	Histamine H4 Receptor	Histamine H4 Receptor	Formyl Peptide Receptor 1	(FPKI)	(FPR1)	Formyl Peptide Receptor 1 (FPR1)	Formyl Peptide Receptor 1 (FPR1)	Formyl Peptide Receptor-	Formyl Peptide Receptor-	like 2 (FPRL2) Formyl Pantida Pacantor-	like 2 (FPRI 2)	Formyl Peptide Receptor-						
0	190/49	190749	190749	190749	077001	140/44	190749	1	1907/4	190774	190774	190774	190774	190774	190774	190774	190774	190774	190823	ccocot	1,406,53	190823	190823	190824	190824	100824		190824

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	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	•	Homo sapiens	Homo sablens		Homo sapiens	andinos canon		Homo sapiens	Homos capiens		Homo sapiens		sueidos omon	Homo saplens		Homo sapiens	Homo sapiens		Homo sapiens		Homo sapiens	Homo soniens	
ÇD'A.	DELLEAPGDLETLPRLQQHC	CVASHLIDGLEDVLRGLSKN		SKGIRKLKTESEMHTLSSS	ELSLEVQKQVDRSVTLRQNQ	<b>EPEKQMLLHETHQGLLQDGS</b>	KRMGKRSVTALMVLNLALAD	RPFVSGKLRTKAMARR	· mer · · ·	ASYSDIGRRLQARRFR	LEGIGSEASSTRRGGS	) ) ) ) ) 	RKALKMMLFGKIFQKDSSRC	Version ENAMINISTER SECTION OF SE	GIOLIVIA GIOGONENA A	RIYLIAKEQARLISDANQK	EI NEKO AFEIWKHVHO		CVKNNWSNDVRASLYS		SAEPPADWDGAGGSYKLLKG	GIVRRVRVSVKRVSVLN		RNEEFRRSVRSVLPGVGDA	CEFFESWAGRRIPVSLLYSG		CYLGIVRRVRVSVKRVS	ا بيپه	KELYRSYVRTRGVGKVPR	SUXXVINACIONALII	
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	NP_038475.1	NP_038475.1	NP_038475.1	NP_038475.1	NP_038475.1	NP_038475.1	NP_000743.1	NP 000743 1		NP_000743.1	NP 000743.1		LR122	ccto	חלו 22	LR122	20101	77	LR122		NP_0/1332.1	NP_071332.1		NP_071332.1	NP 071332.1		NP_071332.1		NP_073625.1	NID 073495 1	
	IIKe 2 (FPKLZ) EMR2 Hormone Receptor	EMR2 Hormone Receptor	<b>EMR2 Hormone Receptor</b>	<b>EMR2 Hormone Receptor</b>	EMR2 Hormone Receptor	<b>EMR2 Hormone Receptor</b>	Leukotriene B4 Receptor	BLI I I ei ikotriene B4 Recentor	BLT1	Leukotriene 84 Receptor	berri Ferikotriene 84 Receptor	BLT1	Trace Amine Receptor 1	(IAI) Tenes Amino December 1	(TA)	Trace Amine Receptor 1	(TA1) Trace Amire Beconter 1	(TA)	Trace Amine Receptor 1		G Protein-Coupled Receptor 88 (GPR88)	G Protein-Coupled	Receptor 88 (GPR88)	G Protein-Coupled	Receptor 88 (GPR88)	Receptor 88 (GPR88)	G Protein-Coupled	Receptor 88 (GPR88)	P2Y12 Platelet ADP	Neceptol Dovio Biotolot ADB	Receptor
	190948	190948	190948	90948	90948	190948	90955	100055		190955	190955	3	191039	ספטור	32.6	191039	020101	600	191039		191132	191132		191132	101132	1	191132		191168	971101	3
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TIRPFKTSNPKNLLGAK	ANEEGIEELVVA	RKIESTASQAQSS	LVDAVIDAYMNFI	RTDSSTINLFSEEVET	NASDFPDYAAAFGNCTDE	TFLITSTNRTNRSACLD	TLTHGLQTDSCLKQKARR	RLLSISCSIENQIHEA	QQAVCSTVRCKVSGNLE	QDIAEVDHSEGCF	RKOWRLOOPILKLA	CSISINFPSFFTTVMTC	QWFULWIWKDSDV	AFLSDNTIEVRINRTLKK	QETKNEFRNLKQIQSKC	CNNKTHWAPVRSTM	TKMAEYDLQNDVFIIPD	CODITSSKITEGRKELQKIV
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1570	1969	2316	2571	2573	1864	1865	1866	1867	1868	2749	2750	2751	2752	2575	2576	2577	2581	1665
NP_073625.1	LR88	LR88	LR88	LR88	IP_13092	IP_13092	IP_13092	IP_13092	IP_13092	AAK91805.1	AAK91805.1	AAK91805.1	AAK91805.1	ENSP00000199719	ENSP00000199719	ENSP00000199719	ENSP00000199719	AAK15076.1
Receptor P2Y12 Platelet ADP Receptor	Trace Amine Receptor 3	Trace Amine Receptor 3	Trace Amine Receptor 3	Trace Amine Receptor 3	G Protein-Coupled	G Protein-Coupled	G Protein-Coupled	Receptor GPR80 G Protein-Coupled	Receptor GPR80 G Protein-Coupled	Receptor GPR80 MrgX2 G Protein-Coupled	Receptor MrgX2 G Protein-Coupled	Receptor MrgX2 G Protein-Coupled	Receptor MrgX2 G Protein-Coupled	Receptor G Protein-Coupled	Receptor Ls191222 G Protein-Coupled	Receptor Ls 19 1222 G Protein-Coupled	Receptor LS 191222 G Protein-Coupled	Receptor LS191222 EGF-Like Module-Containing
891161	661161	191193	191193	191193	961161	191196	91161	961161	9116	91218	91218	191218	91218	191222	191222	191222	191222	193511
2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193			2196		2198	21%	2200	2201
	191168 P2Y12 Platelet ADP NP_073625.1 1570 TRPFKTSNPKNLLGAK Recentor	191168 PSCEPTION NP_073625.1 1570 TTRPFKTSNPKNLLGAK Receptor Receptor 3 LR88 1969 Anter GIEELVVA	191168   PECEPTION   NP_073625.1   1570   TTRPFKTSNPKNLLGAK   Receptor 3   LR88   1969   RKIESTASQAQSS   RKIESTASQAQSS   191193   Trace Amine Receptor 3   LR88   2316   RKIESTASQAQSS   RKI	191168   POSTULE   1570   TTRPFKTSNPKNLLGAK   191169   TRPFKTSNPKNLLGAK   191193   Trace Amine Receptor 3   LR88   2316   RKIESTASQAQSS   191193   Trace Amine Receptor 3   LR88   2571   LVDAVIDAYMNFI	191168   PZY12 Platelet ADP   NP_073625.1   1570   TTRPFKTSNPKNLLGAK   Receptor 3   LR88   1969   ANEEGIEELVVA   (TA3)   Trace Amine Receptor 3   LR88   2316   RKIESTASGAGSS   (TA3)   Trace Amine Receptor 3   LR88   2571   LVDAVIDAYMNF1   (TA3)   (TA3)	191168   PSYL2 Platelet ADP   NP_073625.1   1570   TTRPFKTSNPKNLLGAK   Receptor 3   LR88   1969   ANEEGIEELVVA   (TA3)   Trace Amine Receptor 3   LR88   2571   LVDAVIDAYMINF!   (TA3)   (TA	191168   P2Y12 Platelet ADP   NP_073625.1   1570   TIRPFKTSNPKNLLGAK   Receptor   191193   Trace Amine Receptor 3   LR88   LVDAVIDAYMINF   L	191168   PSY12 Platelet ADP   NP_073625.1   1570   TIRPFKTSNIPKNILLGAK   Receptor 3   1788   1969   ANEEGIEELVVA   191193   Trace Amine Receptor 3   1788   2316   RKIESTASQAQSS   1743)   191193   Trace Amine Receptor 3   1788   2571   LVDAVIDAYMNF1   RTDSSTINLFSEEVET   191193   Trace Amine Receptor 3   1788   2573   RTDSSTINLFSEEVET   1743)   191196   G Protein-Coupled   IP_13092   1864   Receptor GPR80   IP_13092   1865   TFLITSTINRTNRSACLD   Receptor GPR80   IP_13092   1865   THGCATDSCLKQKARR	191168         PATCH Patchel ADP Receptor 3 (A.3)         IRRB         1570         TIRPFKTSNPKNLLGAK         Homo saplens           191193         Trace Amine Receptor 3 (A.3)         LR88         2316         RKIESTASQAGSS         Homo saplens           191193         Trace Amine Receptor 3 (A.3)         LR88         2571         LVDAVIDAYMNFI         Homo saplens           191193         Trace Amine Receptor 3 (A.3)         LR88         2573         RTIDSSTINLESEEVET         Homo saplens           191194         GProtein-Coupled         IP_13092         1864         RTDSSTINLESEEVET         Homo saplens           191196         G Protein-Coupled         IP_13092         1865         TEUTSTINRTINRSACLD         Homo saplens           191196         G Protein-Coupled         IP_13092         1866         TEUTSTINRTINRSACLD         Homo saplens           191196         G Protein-Coupled         IP_13092 <td< td=""><td>  191166   Parcellot   Parcell</td><td>  191168   PACTO   PAC</td><td>  1911 168   PAYTOR Plottelet ADP   NP_073825.1   1570   TIRPERTISNPKNILLGAK   Homo sopilens     1911 1911 172   Proteint ADP   NP_073825.1   1570   TIRPERTISNPKNILLGAK   Homo sopilens     1911 1911 172   Proteint ADP   NP_073825.1   1570   TIRPERTISNPKNILLGAK   Homo sopilens     1911 1911 172   Tiroce Amiline Receptor 3   LR88   2571   LVDAVIDAVMINF    Homo sopilens     1911 191 172   Tiroce Amiline Receptor 3   LR88   2571   LVDAVIDAVMINF    Homo sopilens     1911 191 172   Tiroce Amiline Receptor 3   LR88   2571   LVDAVIDAVMINF    Homo sopilens     1911 192   Tiroce Amiline Receptor 3   LR88   2573   LVDAVIDAVMINF    Homo sopilens     1911 193   Tiroce Amiline Receptor 3   LR88   2573   LVDAVIDAVMINF    Homo sopilens     1911 194   G Protein-Coupled   P_13092   1865   TELITSTRITRITRISACLID   Homo sopilens     1911 195   G Protein-Coupled   P_13092   1865   TELITSTRITRITRISACLID   Homo sopilens     1912 185   Riceptor GPR80   P_13092   1868   GAAVCSTVRCKVSGNLE   Homo sopilens     1912 185   MrigX2 G Protein-Coupled   AAK91805.1   2750   RKGWRLGQPILULA   Homo sopilens     1912 185   MrigX2 G Protein-Coupled   AAK91805.1   2750   RKGWRLGQPILULA   Homo sopilens     1912 185   MrigX2 G Protein-Coupled   AAK91805.1   2750   RKGWRLGQPILULA   Homo sopilens     1912 185   MrigX2 G Protein-Coupled   AAK91805.1   2750   RKGWRLGQPILULA   Homo sopilens     1913   Homo sopilens   Homo sopilens   Homo sopilens     1914 186   Homo sopilens   Homo sopilens   Homo sopilens   Homo sopilens     1915   Homo sopilens   Homo sopilens   Homo sopilens   Homo sopilens   Homo sopilens   Homo sopilens     1913   Homo sopilens   Homo sopilens  </td><td>  1911 168   Part Particle ADP   NP_073625.1   1570   TITRPFKISNPKNLLGAK   Homo sapiens   Receptor   1911 193   Trace Armine Receptor 3   LR88   2316   RKIESTASGAGSS   Homo sapiens   1911 193   Trace Armine Receptor 3   LR88   2571   LVDAVIDAYMANFI   Homo sapiens   1911 193   Trace Armine Receptor 3   LR88   2573   LVDAVIDAYMANFI   Homo sapiens   1911 193   Trace Armine Receptor GPR80   P_13092   1864   RTDSSTINLESEVET   Homo sapiens   1911 194   G Profein-Coupled   P_13092   1865   TLTIFGLATDSCLKGIKARR   Homo sapiens   Receptor GPR80   P_13092   1868   GDAEVDHSEGCF   Homo sapiens   Receptor GPR80   P_13092   1868   GDAEVDHSEGCF   Homo sapiens   Receptor GPR80   P_13092   1868   GDAEVDHSEGCF   Homo sapiens   Receptor GPR80   P_13092   PAK91805.1   2750   RKGWRLGGPIKLA   Homo sapiens   Receptor GPR80   P_13092   PAK91805.1   2750   RKGWRLGGPIKLA   Homo sapiens   Receptor GPR80   P_13092   PAK91805.1   2751   CSISINFPSFFITVANTC   Homo sapiens   PRGEOFICE   PRGEOFICE  </td><td>  1911.06   PZY12 Potchelet ADP   NP_073825.1   1570   TIRPFKTSNPKNLLGAK   Homo sapiens Receptor (TA3)   Trace Armine Receptor 3   LR88   2316   RRIESTASGAGSS   Homo sapiens (TA3)   Trace Armine Receptor 3   LR88   2571   LVDAVIDAVINIFI   Homo sapiens (TA3)   Trace Armine Receptor 3   LR88   2573   RRIESTAGGAGSS   Homo sapiens (TA3)   Trace Armine Receptor 3   LR88   2573   RRIESTAGGAGSS   Homo sapiens (TA3)   Homo sapiens (T</td><td>191168         PACADILLA MAK91805.1         IS70         TITRPEKTSNPKNLLGAK         Homo sopilens           191193         Trace Amine Receptor 3         LR88         1969         ANEGEIELVVA         Homo sopilens           191193         Trace Amine Receptor 3         LR88         2316         RKIESTASGAGSS         Homo sopilens           191193         Trace Amine Receptor 3         LR88         2573         LVDAVIDAYMNIFI         Homo sopilens           191194         Trace Amine Receptor 3         LR88         2573         LVDAVIDAYMNIFI         Homo sopilens           191195         Trace Amine Receptor 3         LR88         2573         RASDEPDYAAAFGNCTDE         Homo sopilens           191196         G Protein-Coupled         IP_13092         1864         RASDEPDYAAAFGNCTDE         Homo sopilens           191196         G Protein-Coupled         IP_13092         1865         TRUISINRINISACLD         Homo sopilens           191196         G Protein-Coupled         IP_13092         1866         RAK9180         Homo sopilens           19119         G Protein-Coupled         IP_13092         1866         GAAVCSTVRCKVSGNLE         Homo sopilens           191218         MigXZ G Protein-Coupled         AAK91805.1         2750         GABAUCTNRCKVSGNLE</td><td>  91168   Parcel Potenier ADP   NP_073625.1   1570   TITRPEKTSNPKNLLGAK   Homo sopiens   Receptor   1788   1969   RIGERIELVVA   Homo sopiens   191193   Trace Amine Receptor 3   LR88   2316   RIGERIELVAA   Homo sopiens   191193   Trace Amine Receptor 3   LR88   2573   LVDAVIDAVIANE   Homo sopiens   191194   CRASI   Trace Amine Receptor 3   LR88   2573   RIDERIELECKET   Homo sopiens   191195   Grotein-Coupled   P_13092   1865   TILTSTRICTRICRACLD   Homo sopiens   191196   Grotein-Coupled   P_13092   1865   TILTSTRICTRICRACLD   Homo sopiens   191196   Grotein-Coupled   P_13092   1865   TILTSTRICTRICRACLD   Homo sopiens   191196   Grotein-Coupled   P_13092   1865   TILTSTRICTRICRACLD   Homo sopiens   Receptor GPR80   P_13092   1865   TILTSTRICTRICRACLD   Homo sopiens   Receptor GPR80   P_13092   1865   GAAVCSTVRCKVSGNLE   Homo sopiens   Receptor GPR80   P_13092   1868   GAAVCSTVRCKVSGNLE   Homo sopiens   Receptor GPR80   AAK91805.1   2750   GAAVCSTVRCKVSGNLE   Homo sopiens   Receptor GPR80   AAK91805.1   2750   GAAVCSTVRCKVSGNLE   Homo sopiens   Receptor GPR80   AAK91805.1   2750   GAFICHERNIERIUKK   Homo sopiens   AAK91805.1   2750   GFR60   GFR60   AAK91805.1   2750   GFR60   GFR60</td><td>  1911.08   P2V12 Pottleiet ADP   NP_073625.1   1570   TITRPEKTSNPKNLLGAK   Horno sopilens Receptor 3   1888   1969   RIKESTASSAGASS   Horno sopilens (TA3)   Titode Amine Receptor 3   1888   2316   RIKESTASSAGASS   Horno sopilens (TA3)   Titode Amine Receptor 3   1888   2371   LVDAVIDAYMNET   Horno sopilens (TA3)   Titode Amine Receptor 3   LR88   2573   RIKESTASSAGASS   Horno sopilens (TA3)   Titode Amine Receptor 3   LR88   2573   RIKESTASCAGASS   Horno sopilens (TA3)   Titode Amine Receptor GPR80   P_13092   1864   RICESTINIEREEVET   Horno sopilens (TA3)   Titode Amine Receptor GPR80   P_13092   1865   TITINIENIERIA   Horno sopilens (TA3)   Titode Amine Receptor GPR80   P_13092   1865   TITINGLGIDSCLKGKARR   Horno sopilens Receptor GPR80   P_13092   TITINGLGIDSCLKGKARR   Horno sopilens Receptor GPR80   P_13092   TITINGLGIDSCLKGKARR   Horno sopilens Receptor GPR80   TITINGLGIDSCLKGKARR   TITINGLGIDSCLKGKARR   Horno sopilens Receptor GPR80</td><td>191188         PARTIZE Placelet ADP Receptor (TA3)         NP_073425.1         1570         ITRPPKTSNPKNLLGAK         Homo sopilens           191193         Trace Amine Receptor 3 (TA3)         LR88         2316         RKESTASSAGSS         Homo sopilens           191193         Trace Amine Receptor 3 (TA3)         LR88         2316         LVDANIDAYMNFI         Homo sopilens           191193         Trace Amine Receptor 3 (TA3)         LR88         2573         LVDANIDAYMNFI         Homo sopilens           191194         GAS Amine Receptor 3 (TA3)         LR88         2573         LVDANIDAYMNFI         Homo sopilens           191195         GEOFILIA COLUPICA G Profein-Colupical Receptor GRR80         PL_13092         1864         LVDANIDAYMNFI         Homo sopilens           191196         G Profein-Colupical Receptor GRR80         PL_13092         1865         TLTHGLGTDSCLKGKARR         Homo sopilens           19119         G Profein-Colupical Receptor GRR80         PL_13092         1865         TLTHGLGTDSCLKGKARR         Homo sopilens           191218         Receptor GRR80         PL_13092         1864         GAAVCSTVRCKYSGNLE         Homo sopilens           191218         Receptor GRR80         PAKP1805.1         2750         GARCHILLOSPECF         Homo sopilens           191218</td></td<>	191166   Parcellot   Parcell	191168   PACTO   PAC	1911 168   PAYTOR Plottelet ADP   NP_073825.1   1570   TIRPERTISNPKNILLGAK   Homo sopilens     1911 1911 172   Proteint ADP   NP_073825.1   1570   TIRPERTISNPKNILLGAK   Homo sopilens     1911 1911 172   Proteint ADP   NP_073825.1   1570   TIRPERTISNPKNILLGAK   Homo sopilens     1911 1911 172   Tiroce Amiline Receptor 3   LR88   2571   LVDAVIDAVMINF    Homo sopilens     1911 191 172   Tiroce Amiline Receptor 3   LR88   2571   LVDAVIDAVMINF    Homo sopilens     1911 191 172   Tiroce Amiline Receptor 3   LR88   2571   LVDAVIDAVMINF    Homo sopilens     1911 192   Tiroce Amiline Receptor 3   LR88   2573   LVDAVIDAVMINF    Homo sopilens     1911 193   Tiroce Amiline Receptor 3   LR88   2573   LVDAVIDAVMINF    Homo sopilens     1911 194   G Protein-Coupled   P_13092   1865   TELITSTRITRITRISACLID   Homo sopilens     1911 195   G Protein-Coupled   P_13092   1865   TELITSTRITRITRISACLID   Homo sopilens     1912 185   Riceptor GPR80   P_13092   1868   GAAVCSTVRCKVSGNLE   Homo sopilens     1912 185   MrigX2 G Protein-Coupled   AAK91805.1   2750   RKGWRLGQPILULA   Homo sopilens     1912 185   MrigX2 G Protein-Coupled   AAK91805.1   2750   RKGWRLGQPILULA   Homo sopilens     1912 185   MrigX2 G Protein-Coupled   AAK91805.1   2750   RKGWRLGQPILULA   Homo sopilens     1912 185   MrigX2 G Protein-Coupled   AAK91805.1   2750   RKGWRLGQPILULA   Homo sopilens     1913   Homo sopilens   Homo sopilens   Homo sopilens     1914 186   Homo sopilens   Homo sopilens   Homo sopilens   Homo sopilens     1915   Homo sopilens   Homo sopilens   Homo sopilens   Homo sopilens   Homo sopilens   Homo sopilens     1913   Homo sopilens   Homo sopilens	1911 168   Part Particle ADP   NP_073625.1   1570   TITRPFKISNPKNLLGAK   Homo sapiens   Receptor   1911 193   Trace Armine Receptor 3   LR88   2316   RKIESTASGAGSS   Homo sapiens   1911 193   Trace Armine Receptor 3   LR88   2571   LVDAVIDAYMANFI   Homo sapiens   1911 193   Trace Armine Receptor 3   LR88   2573   LVDAVIDAYMANFI   Homo sapiens   1911 193   Trace Armine Receptor GPR80   P_13092   1864   RTDSSTINLESEVET   Homo sapiens   1911 194   G Profein-Coupled   P_13092   1865   TLTIFGLATDSCLKGIKARR   Homo sapiens   Receptor GPR80   P_13092   1868   GDAEVDHSEGCF   Homo sapiens   Receptor GPR80   P_13092   1868   GDAEVDHSEGCF   Homo sapiens   Receptor GPR80   P_13092   1868   GDAEVDHSEGCF   Homo sapiens   Receptor GPR80   P_13092   PAK91805.1   2750   RKGWRLGGPIKLA   Homo sapiens   Receptor GPR80   P_13092   PAK91805.1   2750   RKGWRLGGPIKLA   Homo sapiens   Receptor GPR80   P_13092   PAK91805.1   2751   CSISINFPSFFITVANTC   Homo sapiens   PRGEOFICE   PRGEOFICE	1911.06   PZY12 Potchelet ADP   NP_073825.1   1570   TIRPFKTSNPKNLLGAK   Homo sapiens Receptor (TA3)   Trace Armine Receptor 3   LR88   2316   RRIESTASGAGSS   Homo sapiens (TA3)   Trace Armine Receptor 3   LR88   2571   LVDAVIDAVINIFI   Homo sapiens (TA3)   Trace Armine Receptor 3   LR88   2573   RRIESTAGGAGSS   Homo sapiens (TA3)   Trace Armine Receptor 3   LR88   2573   RRIESTAGGAGSS   Homo sapiens (TA3)   Homo sapiens (T	191168         PACADILLA MAK91805.1         IS70         TITRPEKTSNPKNLLGAK         Homo sopilens           191193         Trace Amine Receptor 3         LR88         1969         ANEGEIELVVA         Homo sopilens           191193         Trace Amine Receptor 3         LR88         2316         RKIESTASGAGSS         Homo sopilens           191193         Trace Amine Receptor 3         LR88         2573         LVDAVIDAYMNIFI         Homo sopilens           191194         Trace Amine Receptor 3         LR88         2573         LVDAVIDAYMNIFI         Homo sopilens           191195         Trace Amine Receptor 3         LR88         2573         RASDEPDYAAAFGNCTDE         Homo sopilens           191196         G Protein-Coupled         IP_13092         1864         RASDEPDYAAAFGNCTDE         Homo sopilens           191196         G Protein-Coupled         IP_13092         1865         TRUISINRINISACLD         Homo sopilens           191196         G Protein-Coupled         IP_13092         1866         RAK9180         Homo sopilens           19119         G Protein-Coupled         IP_13092         1866         GAAVCSTVRCKVSGNLE         Homo sopilens           191218         MigXZ G Protein-Coupled         AAK91805.1         2750         GABAUCTNRCKVSGNLE	91168   Parcel Potenier ADP   NP_073625.1   1570   TITRPEKTSNPKNLLGAK   Homo sopiens   Receptor   1788   1969   RIGERIELVVA   Homo sopiens   191193   Trace Amine Receptor 3   LR88   2316   RIGERIELVAA   Homo sopiens   191193   Trace Amine Receptor 3   LR88   2573   LVDAVIDAVIANE   Homo sopiens   191194   CRASI   Trace Amine Receptor 3   LR88   2573   RIDERIELECKET   Homo sopiens   191195   Grotein-Coupled   P_13092   1865   TILTSTRICTRICRACLD   Homo sopiens   191196   Grotein-Coupled   P_13092   1865   TILTSTRICTRICRACLD   Homo sopiens   191196   Grotein-Coupled   P_13092   1865   TILTSTRICTRICRACLD   Homo sopiens   191196   Grotein-Coupled   P_13092   1865   TILTSTRICTRICRACLD   Homo sopiens   Receptor GPR80   P_13092   1865   TILTSTRICTRICRACLD   Homo sopiens   Receptor GPR80   P_13092   1865   GAAVCSTVRCKVSGNLE   Homo sopiens   Receptor GPR80   P_13092   1868   GAAVCSTVRCKVSGNLE   Homo sopiens   Receptor GPR80   AAK91805.1   2750   GAAVCSTVRCKVSGNLE   Homo sopiens   Receptor GPR80   AAK91805.1   2750   GAAVCSTVRCKVSGNLE   Homo sopiens   Receptor GPR80   AAK91805.1   2750   GAFICHERNIERIUKK   Homo sopiens   AAK91805.1   2750   GFR60   GFR60   AAK91805.1   2750   GFR60   GFR60	1911.08   P2V12 Pottleiet ADP   NP_073625.1   1570   TITRPEKTSNPKNLLGAK   Horno sopilens Receptor 3   1888   1969   RIKESTASSAGASS   Horno sopilens (TA3)   Titode Amine Receptor 3   1888   2316   RIKESTASSAGASS   Horno sopilens (TA3)   Titode Amine Receptor 3   1888   2371   LVDAVIDAYMNET   Horno sopilens (TA3)   Titode Amine Receptor 3   LR88   2573   RIKESTASSAGASS   Horno sopilens (TA3)   Titode Amine Receptor 3   LR88   2573   RIKESTASCAGASS   Horno sopilens (TA3)   Titode Amine Receptor GPR80   P_13092   1864   RICESTINIEREEVET   Horno sopilens (TA3)   Titode Amine Receptor GPR80   P_13092   1865   TITINIENIERIA   Horno sopilens (TA3)   Titode Amine Receptor GPR80   P_13092   1865   TITINGLGIDSCLKGKARR   Horno sopilens Receptor GPR80   P_13092   TITINGLGIDSCLKGKARR   Horno sopilens Receptor GPR80   P_13092   TITINGLGIDSCLKGKARR   Horno sopilens Receptor GPR80   TITINGLGIDSCLKGKARR   TITINGLGIDSCLKGKARR   Horno sopilens Receptor GPR80	191188         PARTIZE Placelet ADP Receptor (TA3)         NP_073425.1         1570         ITRPPKTSNPKNLLGAK         Homo sopilens           191193         Trace Amine Receptor 3 (TA3)         LR88         2316         RKESTASSAGSS         Homo sopilens           191193         Trace Amine Receptor 3 (TA3)         LR88         2316         LVDANIDAYMNFI         Homo sopilens           191193         Trace Amine Receptor 3 (TA3)         LR88         2573         LVDANIDAYMNFI         Homo sopilens           191194         GAS Amine Receptor 3 (TA3)         LR88         2573         LVDANIDAYMNFI         Homo sopilens           191195         GEOFILIA COLUPICA G Profein-Colupical Receptor GRR80         PL_13092         1864         LVDANIDAYMNFI         Homo sopilens           191196         G Profein-Colupical Receptor GRR80         PL_13092         1865         TLTHGLGTDSCLKGKARR         Homo sopilens           19119         G Profein-Colupical Receptor GRR80         PL_13092         1865         TLTHGLGTDSCLKGKARR         Homo sopilens           191218         Receptor GRR80         PL_13092         1864         GAAVCSTVRCKYSGNLE         Homo sopilens           191218         Receptor GRR80         PAKP1805.1         2750         GARCHILLOSPECF         Homo sopilens           191218

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·	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapjens		Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homos cardens					
	LDSLSRSSNSREQLDQV	REEHHFMVDARNRSYPLYSC	PGPAPGGEEAADPRASRR CBDBCCGUKEANGEDBCCH	PSSGAPRPGRIPIRNGRVA	FLGKNDDIKTKKELIVN	GVTYRDSKEKRDLRNFLK	CERTKIWGTFKINERFIND	SKYANGIEIQLKKAYER	CIVVFIVRTERSLHAP	KII AI EWEDSPEISEFAC		CVHQDVMKLAYADTLP	RFGNSLHPIVRVVMGD	KTKQIRTRVLAMFKISC	KTDENEQDQSASVDMVFSP	KKDYQYPKSLDILSNVGC	KNLQTSD@DINNIDFDNN SONGNNPOWEI DXBOEKIO	RPRLRVKMYNFLRSLPTLHE	CNPSVPKQRVMKLTKM	RLTRWRTRYKTIRINLG	KDGVESCAFDLTSPDDVL	I SCINECIKPI POJODPATE					
	- man and and and and and and and and and a				*	;					المعهد المراقعة المراقعة المراقعة المراقعة				* ** **				•					•	4	•	 a •
	2744	1903	1905 400 400 400 400 400 400 400 400 400 4	<u>8</u>	2018	2019	2020	2021	2022	2003		2024	2027	2028	1855	1856	1857	1859	1845	1846	1847	1848	}				
			•.															•									•
	NP_001398.1	NP_071429.1	NP_071429.1	NP_071429.1	NP_079324.1	NP_079324.1	NP_079324.1	NP_079324.1	NP_110401.1	1 107011 AN		NP_110401.1	NP_110401.1	NP_110401.1	LR77	LR77	LR77	LR77	AAK32193.1	AAK32193.1	AAK32193.1	AAK32103 1					
	Cadherin EGF LAG Seven-Pass G-Type Receptor 3 (CELSR3)	ptide FF 1 Receptor	Neuropeptide FF 1 Receptor 1		G Protein-Coupled Receptor FLJ22684										51, Subramily E, Member 2 FLJ14454		FLJ14454 Ei 114454		G Protein-Coupled			2	Receptor SLI/MCH2				
	193524	193914	193914	193914	194319	194319	194319	194319	194431	194431		194431	194431	194431	194743	194743	194743	194743	194745	194745	194745	104745					
	2218	2219	2220	2222	2223	2224	2225	2226	2227	2228		2229	2230	2231	2232	2233	2234 2235	2236	2237	2238	2239	2240	}				

olens	suejo	olėns	lens	siens	iens	olens	siens	suelic	siens	siens	siens		Siens	siens	olens	sueic	siens	siens	siens	
Homo saplens	Homo saplens	Homo saplens	Homo saplens	Homo saplens	Homo sapiens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo sapiens		Homo saplens	Homo saplens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	Homo sapiens	
TIIRSRKKTVPDIYIC	RRATEKEINNMGNTLKSHF	CRIEGDTISQVMPPLLIVA	RRHWAFGDIPCRVGLFTL	CESFIMESANGWHDIM	CSFKIVWSLRRRGGLARGAR	RRRQQLARQARMKKATR	TVPSSACDPSVHGALH	CSLKPKQPGHSKTQRPEEM	CISVANSFQSQSDGQWD	RIRKGHSEATNSSNRVFVYC	RVISQISADNYKIHGDPSA		ISSSARISINAKPFHSD	NGTRPGMASTKLSPWD	LGIAWDRRLRSPPAGC	GERYMAVLRPLQPPGS	CRDEPSALARALTWRGAR	AAGRCLGGLWGRASRD	RDSPGPSIAYHPSSGSSVD	
1849	1907	2089	2090	2091	2092	2093	2094	2095	20%	2034	2035		2036	2037	1933	1934	1935	1936	1937	
AAK32193.1	AAK32193.1	AAK29071.1	AAK29071.1	AAK29071.1	AAK29071.1	AAK29071.1	AAK29071.1	AAK29071.1	AAK29071.1	CAB82385.1	CAB82385.1		CAB82385.1	CAB82385.1	LR84	LR84	LR84	U884	LR84	
G Protein-Coupled Pecentor St 7/MCH2	George St./Mon.s George St./Mon.s Receptor St./Mon.s	Chemokine Receptor	Chemokine Receptor FKSG80/GPR81	Chemokine Receptor FKSG80/GPR81	Chemokine Receptor FKSG80/GPR81	Chemokine Receptor FKSC80/GPR81	Chemokine Receptor	Chemokine Receptor	Chemokine Receptor	G Protein-Coupled	Receptor Ls 194757 G Protein-Coupled	Receptor Ls 194757	G Protein-Coupled Receptor Ls 194757	G Protein-Coupled	G Protein-Coupled	G Protein-Coupled	receptor Laty4636 G Protein-Coupled	Receptor Lot 4636 G Protein-Coupled	Receptor LS 194858 G Protein-Coupled	Receptor LS194858
194745	194745	194756	194756	194756	194756	194756	194756 (	194756 (	194756	194757	194757		194/57	194757	194858 (	194858	194858 (	194858	194858 (	20,01
2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	i i	2253	2254	2255	2256	2257	2258	2259	. 6

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Homo saplens			Homo sapiens	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens	Homo saplens			Homo sapiens	Homo sapiens		Homo sapiens	Homo capions		Homo sapiens	aclass conch	supidos outou	Homo sapiens	;	Homo sapiens	Homo sapiens	Homo saplens	Homo saplens
CIAFKDIMPFSAQVGDER		אירביא לאיראיר איר איר איר איר איר איר איר איר א	ETKIQWHGKDNQVPKSVC	CSYLGKDLPENYNEAK	SDYDMPLDEDEDVTNS	NPHGAHATSFPFNFSY	ERALPRIYMASVYNTRHVC	CAKMQNAEAADATLVF			RYMNGSFPSKLGRLMKKLPC	CARAAGDAPLRSLEGANRTR		VISYSKILQTTKASRKRL	CCO/\diChadaxy ia/t		CTWFPEKGAILTDTSVKRND			<b>GETLPTLQPNQNMTSEERQR</b>		RTS@SYTCN@ECDNCLNAT	RPQSHPRIDPDDPKIIIVSC	VARRQAKKIENTGSKT	KVIVTGQVLKNSSA
• .								••••						•							٠				
1991	5 6	744	1993	1994	2011	2014	1986	1987	0001	00 <u>%</u>	1989	2003		2007	3000	2002	2006	7000	7007	2008		2009	2010	2312	2313
ENSP00000198236	ENISPONDO CONTRACTOR	ENSPONDOLIYOZSO	ENSP00000198236	ENSP00000198236	LR114	UR114	เราเร	LR112	or in	חלווג	LR112	R116		LR116	71101	0(1)0	LR116		 מלווי	LR117		LR117	LR117	AAK71243.1	AAK71243.1
Receptor G Protein-Coupled	Receptor GPCRB3	e Protein-Coupled Receptor GPCRB3	G Protein-Coupled Receptor GPCRB3	G Protein-Coupled	WO0034334-hF841A	WO0034334-hFB41A	G Protein-Coupled	G Protein-Coupled	Receptor INIGC/USS	G Protein-Coupled Receptor MGC7035	G Protein-Coupled	G Protein-Coupled	Receptor 14273	G Protein-Coupled	Receptor 142/3	G Protein-Coupled Receptor 14273	G Protein-Coupled	Receptor 14273	G Protein-coupled receptor Livitiv Goorb4	G Protein-coupled Receptor LR117	Gpcrb4	G Protein-coupled Receptor UR117	G Protein-coupled Receptor LR117 Gocrb4	Trace Amine Receptor 4	Irace Amine Receptor 4 (TA4)

 194904 194905

2265 2267 2267

 

					Receptor GPR82		
Homo sapiens	CTSIMEKDLTYSSVKR		2715	AAL26482	G Protein-Coupled	195015	2292
					Receptor GPR82		
Homo sapiens	YSVIEATEGEESLC		2708	AAL26482	G Protein-Coupled	195015	2291
		-			Receptor GPR82		
Homo sapiens	KIFYGHLLKKFRQPNF		2707	AAL26482	G Protein-Coupled	195015	2290
					Receptor GPR82	•	
Homo sapiens	RYATLMGKDSSGETT	٠.	2706	AAL26482	G Protein-Coupled	195015	2289
					Receptor		
Homo sapiens	MDPTVPVFGTKL		2729	AAK91807.1	MrgX4 G Protein-Coupled	194989	2288
		. :			Receptor		
Homo saplens	LINISHLIRKILVS		2728	AAK91807.1	MrgX4 G Protein-Coupled	194989	2287
					Receptor		
Homo sapiens	<b>QDKPEVDKGEGQLPEESL</b>		2727	AAK91807.1	MrgX4 G Protein-Coupled	194989	2286
		~ : - :		•	(TA5)		
Homo sapiens	SGDVLKASSSTISUFLE		2570	AAK71244.1	Trace Amine Receptor 5	194958	2285
			: 21 .				
HOMO SOCIOLO	SANNON		0310	1 88015740	(IA5) Traco Amino Bocontor 5	104058	7284
Homo sapiens	MTSNFSQPVVQLC	•	2314	AAK71244.1	Trace Amine Receptor 5	194958	2283
		••			(TA5)		
Homo sapiens	IAKQQAIKIETTSSKV	-	2307	AAK71244.1	Trace Amine Receptor 5	194958	2282
					(TA4)		
Homo sapiens	MSSNSSLLVAVQLC		2318	AAK71243.1	Trace Amine Receptor 4	194957	2281

		440/448	
SEQ ID NO:	LS_ID	Gene	Antibody Company Name
1	127	5-HT1A Receptor	Chemicon
1	127	5-HT1A Receptor	Research Diagnostics
1	127	5-HT1A Receptor	Santa Cruz
3	128	5-HT1B Receptor	Chemicon
3	128	5-HT1B Receptor	Research Diagnostics
3	128	5-HT1B Receptor	Santa Cruz
5	129	5-HT1D Receptor	Research Diagnostics
5	129	5-HT1D Receptor	Santa Cruz
11	132	5-HT2A Receptor	Calbiochem
11	132	5-HT2A Receptor	Research Diagnostics
13	133	5-HT2B Receptor	Research Diagnostics
15	134	5-HT2C Receptor	Research Diagnostics
15	134	5-HT2C Receptor	Santa Cruz
21	139	5-HT7 Receptor	Calbiochem
23	272	Adenosine A1 Receptor	Alpha Diagnostic Int.
23	272	Adenosine A1 Receptor	Calbiochem
23	272	Adenosine A1 Receptor	Santa Cruz
25	273	Adenosine A2a Receptor	Alpha Diagnostic Int.
25	273	Adenosine A2a Receptor	Calbiochem
25	273	Adenosine A2a Receptor	Chemicon
			- Santa Cruz
27	274	Adenosine A2b Receptor	Alpha Diagnostic Int.
27	274	Adenosine A2b Receptor	Chemicon
27 .	274	Adenosine A2b Receptor	Santa Cruz
29	275	Adenosine A3 Receptor	Alpha Diagnostic Int.
29	275	Adenosine A3 Receptor	Santa Cruz
31	309	Melanocortin 2 Receptor	Alpha Diagnostic Int.
	•	(adrenocorticotropic hormone) (MC2R)	
, 31	309	Melanocortin 2 Receptor	Chemicon
		(adrenocorticotropic hormone) (MC2R)	
31	309	Melanocortin 2 Receptor	Research Diagnostics
		(adrenocorticotropic hormone) (MC2R)	
31	309 ·	Melanocortin 2 Receptor	Santa Cruz
		(adrenocorticotropic hormone) (MC2R)	
35	377	Alpha 1b-adrenoceptor	Research Diagnostics
35	377	Alpha 1b-adrenoceptor	Santa Cruz
37	379	Alpha 1c-adrenoceptor	Research Diagnostics
37	379	Alpha 1c-adrenoceptor	Santa Cruz
39	387	Alpha 2a-adrenoceptor	Calbiochem
39	387	Alpha 2a-adrenoceptor	Santa Cruz
41	388	Alpha 2b-adrenoceptor	Research Diagnostics
41	388	Alpha 2b-adrenoceptor	Santa Cruz
43	389	Alpha 2c-adrenoceptor	Research Diagnostics
43	389	Alpha 2c-adrenoceptor	Santa Cruz
45	599	Bradykinin B1 Receptor	Research Diagnostics
49	635	Beta-1 adrenoceptor	Calbiochem
49	635	Beta-1 adrenoceptor	Research Diagnostics `

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49	635	Beta-1 adrenoceptor	Santa Cruz	
51	640	Beta-2 adrenoceptor	Research Diagnostics	
51	640	Beta-2 adrenoceptor	Santa Cruz	
53	643	Beta-3 adrenoceptor	Alpha Diagnostic Int.	
53	643	Beta-3 adrenoceptor	Chemicon	
53	643	Beta-3 adrenoceptor	Research Diagnostics	
53	643	Beta-3 adrenoceptor	Santa Cruz	
57	692	Bombesin Receptor Subtype-3	Alpha Diagnostic Int.	
57	692	Bombesin Receptor Subtype-3	Chemicon	
59	729	CXC Chemokine Receptor 5	Research Diagnostics	
59	729	CXC Chemokine Receptor 5	Santa Cruz	
61	735	C-C Chemokine Receptor 1	Calbiochem	
61	735	C-C Chemokine Receptor 1	Capralogics	
61	735	C-C Chemokine Receptor 1	Chemicon	
61	735	C-C Chemokine Receptor 1	Research Diagnostics	
61	735	C-C Chemokine Receptor 1	Santa Cruz	
63	737	C-C Chemokine Receptor 3	Research Diagnostics	
63	737	C-C Chemokine Receptor 3	Santa Cruz	
65	738	C-C Chemokine Receptor 4	Capralogics	
65	738	C-C Chemokine Receptor 4	Research Diagnostics	
65	738	C-C Chemokine Receptor 4	Santa Cruz	
. 67 .		C-C Chemokine Receptor 7	Research Diagnostics	
67	· · 741	C-C Chemokine Receptor 7	Santa Cruz	٠.
69	742	C-C Chemokine Receptor 8	Chemicon	
70	742	C-C Chemokine Receptor 8	Chemicon	
71	742	C-C Chemokine Receptor 8	Chemicon	
73	752	CXC Chemokine Receptor 3	Research Diagnostics	
73	752	CXC Chemokine Receptor 3	Santa Cruz	
73	752	CXC Chemokine Receptor 3	Zymed	
75	753	CXC Chemokine Receptor 4	Biosource	
75	753	CXC Chemokine Receptor 4	Calbiochem	-
75	753	CXC Chemokine Receptor 4	Capralogics.	
75	753	CXC Chemokine Receptor 4	Chemicon	
75	753 753	CXC Chemokine Receptor 4	eBioscience	
75	753	CXC Chemokine Receptor 4	Research Diagnostics	
75	753	CXC Chemokine Receptor 4	Santa Cruz Chemokine.com	
77	755	Complement Component 3a Receptor 1	•	
79	758	Complement Component 5a Receptor 1	Santa Cruz	
83	832	Cannabinoid Receptor 1	Alpha Diagnostic Int.	
83	832	Cannabinoid Receptor 1	Biosource	
83	832	Cannabinoid Receptor 1	Calbiochem	
83	832	Cannabinoid Receptor 1	Cayman	
83	832	Cannabinoid Receptor 1	Chemicon	
83	832	Cannabinoid Receptor 1	Santa Cruz	
85 85	833	Cannabinoid Receptor 2	Alpha Diagnostic Int. Calbiochem	
85 85	833	Cannabinoid Receptor 2		
85 85	833 833	Cannabinoid Receptor 2	Cayman Chemicon	
85 85	833	Cannabinoid Receptor 2 Cannabinoid Receptor 2	Santa Cruz	
85 97	833 1240	Dopamine Receptor D1	-	
97 97	1240	Dopamine Receptor D1  Dopamine Receptor D1	Alpha Diagnostic Int.	
71	1240	Dopanine Receptor D1	Biogenesis	

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97	1240	Dopamine Receptor D1	Calbiochem
97	1240	Dopamine Receptor D1	Chemicon
97	1240	Dopamine Receptor D1	FabGennix through Abcam
97	1240	Dopamine Receptor D1	Research Diagnostics
97	1240	Dopamine Receptor D1	Santa Cruz
99	1241	Dopamine Receptor D5	Alpha Diagnostic Int.
99	1241 .	Dopamine Receptor D5	Biogenesis
99	1241	Dopamine Receptor D5	Calbiochem
99	1241	Dopamine Receptor D5	Chemicon
99	1241	Dopamine Receptor D5	Santa Cruz
101	1242	Dopamine Receptor D2	Alpha Diagnostic Int.
101	1242	Dopamine Receptor D2	Biogenesis
101	1242	Dopamine Receptor D2	Calbiochem
101	1242	Dopamine Receptor D2	Chemicon
101	1242	Dopamine Receptor D2	DPC Biermann/Acris
101	1242	Dopamine Receptor D2	FabGennix through Abcam
101	1242	Dopamine Receptor D2	Research Diagnostics
101	1242	Dopamine Receptor D2	Santa Cruz
103	1243	Dopamine Receptor D3	Alpha Diagnostic Int.
103	1243	Dopamine Receptor D3	Biogenesis
103	1243	Dopamine Receptor D3	Calbiochem
103 .	1243	Dopamine Receptor D3	Chemicon
103	1243	Dopamine Receptor D3	Research Diagnostics
103	1243	Dopamine Receptor D3	Santa Cruz
103	1243	Dopamine Receptor D3	Zymed
105	1244	Dopamine Receptor D4	Alpha Diagnostic Int.
105	1244	Dopamine Receptor D4	Biogenesis
105	1244	Dopamine Receptor D4	Calbiochem
105	1244	Dopamine Receptor D4	Chemicon
105	1244	Dopamine Receptor D4	DPC Biermann/Acris
105	1244	Dopamine Receptor D4	Santa Cruz
. 107 .	1267	Opioid Receptor, delta 1 (OPRD1)	Biosource
107	1267	Opioid Receptor, delta 1 (OPRD1)	Calbiochem
107	1267	Opioid Receptor, delta 1 (OPRD1)	DPC Biermann/Acris
107	1267	Opioid Receptor, delta 1 (OPRD1)	Santa Cruz
113	1486	Endothelin B Receptor	Biogenesis
113	1486	Endothelin B Receptor	Capralogics
113	1486	Endothelin B Receptor	DPC Biermann/Acris
113	1486	Endothelin B Receptor	Fitgerald Industries Int.
113	1486	Endothelin B Receptor	Research Diagnostics
115	1488	Endothelin A Receptor	Biogenesis
115	1488	Endothelin A Receptor	Capralogics
115	1488	Endothelin A Receptor	DPC Biermann/Acris
115	1488	Endothelin A Receptor	Fitgerald Industries Int.
115	1488	Endothelin A Receptor	Research Diagnostics
117	1598	Calcium-Sensing Receptor (CASR)	Chemicon
117	1598	Calcium-Sensing Receptor (CASR)	DPC Biermann/Acris

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	121	1681	Follicle Stimulating Hormone Receptor	Biogenesis	
	121	1681	Follicle Stimulating Hormone Receptor	DPC Biermann/Acris	
	121	1681	Follicle Stimulating Hormone Receptor	Santa Cruz	
	125	1762	Galanin Receptor GalR1	Alpha Diagnostic Int.	
	135	1925	Gonadotropin-Releasing Hormone Receptor	Biocarta	
	135	1925	Gonadotropin-Releasing Hormone Receptor	Lab Vision Corporation	on/NeoMarkers
	135	1925	Gonadotropin-Releasing Hormone Receptor	Research Diagnostics	
	135	1925	Gonadotropin-Releasing Hormone Receptor	Santa Cruz	
	139	1951	Growth Hormone Secretagogue Receptor	Santa Cruz	
	143	2120	Histamine H1 Receptor	Alpha Diagnostic Int.	
	143	2120	Histamine H1 Receptor	Chemicon	
	145	2121	Histamine H2 Receptor	Alpha Diagnostic Int.	
	145	2121	Histamine H2 Receptor	Chemicon	
	147	. 2783	Opioid Receptor, kappa 1	Biosource	•
	• • •		(OPRK1)	•	
•	147	2783	Opioid Receptor, kappa 1 (OPRK1)	Calbiochem	
	147	2783	Opioid Receptor, kappa 1 (OPRK1)	DPC Biermann/Acris	
	147	2783	Opioid Receptor, kappa 1 (OPRK1)	Santa Cruz	
	151	2976	Lysophosphatidic Acid Receptor Edg2	Exalpha Biologicals	
•	155	3057	Melanocortin 3 Receptor (MC3R)	Alpha Diagnostic Int.	
	155	3057	Melanocortin 3 Receptor (MC3R)	Chemicon	•
	155	3057	Melanocortin 3 Receptor (MC3R)	Research Diagnostics	
	155	3057	Melanocortin 3 Receptor (MC3R)	Santa Cruz	
	157	3058	Melanocortin 4 Receptor (MC4R)	Alpha Diagnostic Int.	
	157	3058	Melanocortin 4 Receptor (MC4R)	Chemicon	
	157	3058	Melanocortin 4 Receptor (MC4R)	Research Diagnostics	
	157	3058	Melanocortin 4 Receptor (MC4R)	Santa Cruz	
	159	3059	Melanocortin 5 Receptor (MC5R)	Alpha Diagnostic Int.	
	159	3059	Melanocortin 5 Receptor (MC5R)	Chemicon	
	159	3059	Melanocortin 5 Receptor (MC5R)	Research Diagnostics	

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159	3059	Melanocortin 5 Receptor (MC5R)	Santa Cruz	
161	3061	Melanocortin 1 Receptor (MC1R)	Alpha Diagnostic Int.	
161	3061	Melanocortin 1 Receptor (MC1R)	Chemicon	
161	3061	Melanocortin 1 Receptor (MC1R)	Research Diagnostics	
161 -	3061	Melanocortin 1 Receptor (MC1R)	Santa Cruz	
169	3093	Metabotropic Glutamate Receptor I	Chemicon	
171	3094	Metabotropic Glutamate Receptor 2	Chemicon	
173	3095	Metabotropic Glutamate Receptor 3	Chemicon	
175	3096	Metabotropic Glutamate Receptor 4	Zymed	
177	3097	Metabotropic Glutamate Receptor 5	Chemicon	
183	3100	Metabotropic Glutamate Receptor 8	Chemicon	
185	3212	Opioid mu-type Receptor	- Biosource	
185	3212	Opioid mu-type Receptor	Calbiochem	•
185	3212	Opioid mu-type Receptor	Chemicon '	
185	3212	Opioid mu-type Receptor	DPC Biermann/Acris	
185	3212	Opioid mu-type Receptor	Santa Cruz	
187	3223	Muscarinic acetylcholine Receptor M1	Biogenesis	
187	3223	Muscarinic acetylcholine Receptor M1	Calbiochem	
187	3223	Muscarinic acetylcholine Receptor M1	Chemicon	
187	3223	Muscarinic acetylcholine Receptor M1	Santa Cruz	
189	3224	Muscarinic acetylcholine Receptor M2	Biogenesis	
189	3224	Muscarinic acetylcholine Receptor M2	Calbiochem	
189	3224	Muscarinic acetylcholine Receptor M2	Chemicon	
189	3224	Muscarinic acetylcholine Receptor M2	Santa Cruz	
191	3226	Muscarinic acetylcholine Receptor M4	Biogenesis	
192	3226	Muscarinic acetylcholine Receptor M4	Biogenesis	
191	3226	Muscarinic acetylcholine Receptor M4	Chemicon	
192	3226	Muscarinic acetylcholine Receptor M4	Chemicon	
191	3226	Muscarinic acetylcholine Receptor M4	Santa Cruz	

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192	3226	Muscarinic acetylcholine Receptor M4	Santa Cruz
194	3227	Muscarinic Acetylcholine Receptor M5	Biogenesis
194	3227	Muscarinic Acetylcholine Receptor M5	Santa Cruz
200	3404	Neuropeptide Y Receptor Type 2	Biogenesis
202	3405	Neuropeptide Y Receptor Type	Biogenesis
206	3408	Neurotensin Receptor Type 1	Santa Cruz
208	3452	Opiate Receptor-Like 1 (OPRL1)	Santa Cruz
214	3582	Oxytocin Receptor	Santa Cruz
216	3589	Purinergic Receptor P2Y, G- protein coupled, 2 (P2RY2)	Chemicon
216	3589	Purinergic Receptor P2Y, G- protein coupled, 2 (P2RY2)	Zymed
218	3595	Purinergic Receptor P2Y1	Chemicon
218	3595	Purinergic Receptor P2Y1	Zymed
228	3640	Parathyroid Hormone Receptor 1 (PTHR1)	Biocarta
228	3640	Parathyroid Hormone Receptor 1 (PTHR1)	Lab Vision Corporation/NeoMarkers
228	3640	Parathyroid Hormone Receptor 1 (PTHR1)	Santa Cruz
236	3846	Sphingolipid Receptor Edg1	Exalpha Biologicals
238	3847	Sphingolipid Receptor Edg3	Exalpha Biologicals
240	3848	C-C Chemokine Receptor 9	Research Diagnostics
248	3852	CX3C Chemokine Fractalkine Receptor 1	Chemicon
248	3852	CX3C Chemokine Fractalkine Receptor 1	Chemokine.com
248	3852	CX3C Chemokine Fractalkine Receptor 1	eBioscience
250	3853	G Protein-Coupled Receptor GPR15	Santa Cruz
264	3860	G Protein-Coupled Receptor SLC/MCH1	Alpha Diagnostic Int.
264	3860	G Protein-Coupled Receptor SLC/MCH1	Santa Cruz
295	3927	Prostaglandin E Receptor EP4	Cayman
299 .	4051	Proteinase-Activated Receptor 2	Research Diagnostics
299	4051	Proteinase-Activated Receptor 2	Santa Cruz
301	4052	Proteinase-Activated Receptor 3	Research Diagnostics
301	4052	Proteinase-Activated Receptor 3	Santa Cruz
305	4254	Rhodopsin	Biocarta
305	4254	Rhodopsin	DPC Biermann/Acris
311	4480	Somatostatin Receptor Type 1	Santa Cruz

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	313	4481	Somatostatin Receptor Type 2	Biogenesis
	313	4481	Somatostatin Receptor Type 2	Santa Cruz
	315	4482	Somatostatin Receptor Type 3	Santa Cruz
	317	4483	Somatostatin Receptor Type 4	Santa Cruz
	319	4484	Somatostatin Receptor Type 5	Santa Cruz
	321	4552	Tachykinin Receptor 1	Santa Cruz
	323	4687	Thrombin Receptor	DPC Biermann/Acris
	323	4687	Thrombin Receptor	Research Diagnostics
	323	4687	Thrombin Receptor	Santa Cruz
	325	4734	Thyrotropin Releasing	Santa Cruz
	323	1751	Hormone Receptor	
	327	4944	Angiotensin II Type 1 Receptor	Alpha Diagnostic Int.
	327	4944	Angiotensin II Type 1 Receptor	Biocarta
	327	4944	Angiotensin II Type 1 Receptor	Biogenesis
•	327	4944	Angiotensin II Type 1 Receptor	Capralogics
	327	4944	Angiotensin II Type 1 Receptor	Chemicon
	327	4944	Angiotensin II Type 1 Receptor	DPC Biermann/Acris
. *	327	4944	Angiotensin II Type 1 Receptor	Fitgerald Industries Int.
	327	4944	Angiotensin II Type 1 Receptor	Fitzgerald Industries Int.
	327	4944	Angiotensin II Type 1 Receptor	Lab Vision Corporation/NeoMarkers
	327	4944	Angiotensin II Type 1 Receptor	Santa Cruz
	329	4946	Angiotensin II Type 2 Receptor	Alpha Diagnostic Int.
	329	4946	Angiotensin II Type 2 Receptor	DPC Biermann/Acris
	329	4946	Angiotensin II Type 2 Receptor	Santa Cruz
	331	5072	Pyrimidinergic Receptor P2Y4	Chemicon
	333	5117	Vasopressin V1A Receptor	Chemicon
	335	5118	Vasopressin V1B Receptor	Alpha Diagnostic Int.
	335	5118	Vasopressin V1B Receptor	Chemicon
	337	5119	Vasopressin V2 Receptor	Alpha Diagnostic Int.
	337	5119	Vasopressin V2 Receptor	Chemicon
	337	5119	Vasopressin V2 Receptor	Research Diagnostics
	347	6031	SIV/HIV Receptor BONZO	Santa Cruz
	349	6204	Lysophosphatidic Acid Receptor Edg4	Exalpha Biologicals
	351	6213	C-C Chemokine Receptor 5	Calbiochem
	351	6213	C-C Chemokine Receptor 5	Capralogics
	351	6213	C-C Chemokine Receptor 5	Chemicon
	351	6213	C-C Chemokine Receptor 5	Research Diagnostics
	351	6213	C-C Chemokine Receptor 5	Santa Cruz
	361	6853	Purinergic Receptor P2Y11	Zymed

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	365	7221	Galanin Receptor GalR2	Alpha Diagnostic Int.	
	367	7246	Orexin Receptor 1	Alpha Diagnostic Int.	
	369	7247	Orexin Receptor 2	Alpha Diagnostic Int.	
	371	8436	Platelet-Activating Factor	Cayman Cayman	
			Receptor	•	
	371	8436	Platelet-Activating Factor Receptor	Santa Cruz	
	377	9421 .	Neuropeptide Y Receptor Type	Biogenesis	
	377	9421	Neuropeptide Y Receptor Type	DPC Biermann/Acris	
	379	9834	Corticotropin releasing factor Receptor 1	Research Diagnostics	
	379 、	9834	Corticotropin releasing factor Receptor 1	Santa Cruz	
	385	14198	Interleukin-8 Receptor B	Biosource	
	385	14198	Interleukin-8 Receptor B	R&D Systems	
	385	14198	Interleukin-8 Receptor B	Research Diagnostics	•
			<u>-</u>	Santa Cruz	
	385	14198	Interleukin-8 Receptor B		•
	387	14641	Calcitonin Receptor	Santa Cruz	
	389	16041	C-C Chemokine Receptor 6	Research Diagnostics	
		16041	C-C Chemokine Receptor 6	Santa Cruz	
	391	16599	Smoothened	Research Diagnostics	
	391	16599	Smoothened	Santa Cruz	
•	397	17535	Gaba(b) Receptor 1	Alpha Diagnostic Int.	
	397	17535	Gaba(b) Receptor 1	Calbiochem	
	397	17535	Gaba(b) Receptor 1	Chemicon	
	397	17535	Gaba(b) Receptor 1	Santa Cruz	
	423	37498	Xenotropic and Polytropic	Santa Cruz	
			Retrovirus Receptor (XPR1)		
	435	54053	Gaba(b) Receptor 2	Alpha Diagnostic Int.	·
	435	54053	Gaba(b) Receptor 2	Chemicon	
	439	56923	Muscarinic acetylcholine Receptor M3	Biogenesis .	
	439	56923	Muscarinic acetylcholine Receptor M3	Santa Cruz	
	457	152201	Thyrotropin Receptor	DPC Biermann/Acris	
	457	152201	Thyrotropin Receptor	Santa Cruz	
	459	152245	C-C Chemokine Receptor 2	Research Diagnostics	
	459	152245	C-C Chemokine Receptor 2	Santa Cruz	
	461	152299	Interleukin-8 Receptor A	Biosource	
	462	152299	Interleukin-8 Receptor A	Biosource	
	461	152299	Interleukin-8 Receptor A	R&D Systems	
	462	152299	Interleukin-8 Receptor A	R&D Systems	
	461	152299	Interleukin-8 Receptor A	Research Diagnostics	
	462	152299	Interleukin-8 Receptor A	Research Diagnostics	
	461	152299	Interleukin-8 Receptor A	Santa Cruz	
	462	152299	Interleukin-8 Receptor A	Santa Cruz	
	468	159973	Vasoactive Intestinal Polypeptide Receptor 1	Exalpha Biologicals	
	470	160040		Exalpha Biologicals	
				Santa Cruz	

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503	160228	T-Cell Death-Associated Gene 8 (GPR65)	Santa Cruz	
507	160312	Sphingolipid Receptor Edg5	Exalpha Biologicals	
515	160329	Proteinase-Activated Receptor 4	Santa Cruz	
535	161214	Galanin Receptor GalR3	Alpha Diagnostic Int.	
537	161221	Urotensin-II Receptor (GPR14)	Santa Cruz	
546	177168	Cysteinyl Leukotriene CYSLT1 Receptor	Cayman	
548	177191	Histamine H3 Receptor	Alpha Diagnostic Int.	
548	177191	Histamine H3 Receptor	Chemicon	
552	180956	Lysophosphatidic Acid Receptor Edg7	Exalpha Biologicals	
562	189900	Sphingolipid Receptor Edg8	Exalpha Biologicals	
628	190774	Histamine H4 Receptor	Alpha Diagnostic Int.	
628	190774	Histamine H4 Receptor	Chemicon	
636	190955	Leukotriene B4 Receptor BLT1	Cayman	